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A Delphi Study Analyzing Perspectives of School Library Media Specialists' Attitudes toward 21st Century Literacies

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A DELPHI STUDY ANALYZING PERSPECTIVES OF SCHOOL LIBRARY MEDIA SPECIALISTS' ATTITUDES TOWARD 21ST CENTURY LITERACIES

by

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(Under the Direction of Judith Repman)

ABSTRACT

The present study has undertaken the exploration of the perceptions of (School Library Media Specialists) SLMSs regarding the tools and skills necessary to become 21st century literate. Moreover, the researcher attempted to explore how SLMSs are presently using technology to achieve their instructional goals related to 21st century literacy. Specifically, the researcher sought answers to the following research questions:

1. What is your definition of 21st century literacies?
2. What are the skills and tools necessary to be considered 21st century literate?
3. How do you incorporate 21st century literacies into the curriculum?

INDEX WORDS: Qualitative, Post-modernism, Literacy, New literacies, Media specialist, Technology, 21st century literacies, 21st century skills, Dissertation, College of graduate studies, Georgia Southern University

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DEDICATION

To my family—my parents Eugene and Lucille Waugh who instilled in me, “An education is something that no one can take away from you”; my children, Anna and Russell, my husband, Tommy Warren, and my grandson, Jackson—for their love, support, and encouragement. To my extended family and friends who offered critiques, suggestions, and words of strength when I did not think I could go on. Their belief in my ability to succeed sustained me.

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CHAPTER 1

INTRODUCTION AND BACKGROUND

Introduction

The School Library Media Specialist (SLMS) has developed into a key component in the education of today's youth. As indicated by Champlin and Loertscher, "school libraries have evolved from book collections to multimedia repositories to high-tech information centers operating 24 hours a day, 7 days a week, with branches reaching out to every classroom, into students' homes, and now onto students' hand-held computers" (2003, p. 67). In this new role, the SLMS is responsible for inspiring, leading, and involving the student in reading, writing, and research utilizing a variety of media. In one school day, SLMSs often see the entire range of student proficiency, from reading to working with technology:

> We see the ones who have mastered the depth and breadth of technology they or their parents can afford and we see the ones who mask their inability to pay by scorning the limited equity of access that our filters and policies allow us to provide (Dickinson, 2008, p. 10).

An effective SLMS knows that a well-rounded media program will include a variety of instructional methods. Donna Alvermann stated, "Effective instruction builds on elements of both formal and informal literacies" (Alvermann, 2002a, p. 190). Formal literacy can be defined as policies and practices with regard to K-12 education (Burgess, 2007) in addition to the ability to read and write, whereas informal learning or informal literacy can be defined as "learning that occurs unprompted by deliberate facilitation" (Boud & Middleton, 2003, p. 194).

As set forth by the American Association of School Librarians (AASL) guidelines, *Standards for the 21st-Century Learner*, a redefined vision for teaching and learning shapes the

library program and serves as a tool for library media specialists who mold the learning of students in the school (AASL, 2009, para. 1). This new vision includes social and cultural transformations often associated with the philosophy of post-modernism. Post-modernism is defined as "an undermining of authority, the criticism of history, the questioning of progress, and the tendency to view the future as empty" (Usher, 2006). It is from this philosophy of post-modernism that the 21st century student attempts to move beyond the limits of traditional disciplines and subject areas (Hobbs, 1998).

The objective of this study was to identify and analyze attitudes of School Library Media Specialists' toward 21st century literacies and to determine how those perspectives are disseminated in the curriculum.

Conceptual Framework

The conceptual framework that guided this study is rooted in the ideology of post-modernism. According to Doune Macdonald, "A post-modern curriculum may be viewed as moving towards an open system with constant flux and complex interactions; requiring interactive and holistic frameworks for learning, with students becoming knowledge-producers rather than knowledge-consumers" (Macdonald, 2003, p. 143).

Adolescents in the 21st century maintain a lifestyle and mindset that enable them to access much of their learning outside the walls of the formal school building. Embedded within a large part of that learning is technology. Most students cannot get through a regular day without the technology tools they have always known. These young individuals will be expected to become productive, knowledge-producing members of society incorporating many of the technologies they have been using all their lives (Prensky, 2001). According to Robinson, McKenna, and Wedman, "[F]or the first time in the modern era, teachers have an obligation to

prepare children to become literate in ways in which the teachers themselves might not be fully literate" (2004, p. 274). Because the power of technology plays such an important role in adolescents' individual and social identities, schools advocating only school-sanctioned practices will not move students toward a post-modern society, the society that questions everything. Ozmon and Craver (2003) state, "…if conditions are to be changed, then they must be changed by human invention, and this will involve what is considered at the time to be true knowledge and how people define and exercise power as a result" (p. 342).

Knowledge-producing adolescents have developed multiple literacies based on technology. Whereas reading, writing, and oral skills (Burnett, 2006) have been the basis for a culture's social structure, researchers William Kist (2005), Colin Lankshear (2003), and Michael Knobel (2007) have coined the term *new literacies* in an attempt to emphasize their commitment to a notion of literacy that is social, community-based, culturally defined, varied, and potentially transformational. Lankshear and Knobel (2003) define New Literacy Studies by referring to them as "a specific sociocultural approach to understanding and researching literacy" (p. 16).

The progression of literacy in the 21st century is evidenced in the following set of assumptions by Barton, Hamilton, and Ivanic:

- Literacy is best understood as a set of social practices; these can be inferred from events which are mediated by written texts.
- There are different literacies associated with different domains of life.
- Literacy practices are patterned by social institutions and power relationships, and some literacies become more dominant, visible and influential than others.
- Literacy practices are purposeful and embedded in broader social goals and cultural practices.

- Literacy is historically situated.

(Barton, Hamilton, & Ivanic, 1999, p. 8)

Research Questions

The purpose of this study was to examine SLMSs' perceptions regarding 21st century literacies and to evaluate these perceptions. Its focus was threefold: the identification of 21st century literacies by the SLMS, the SLMSs' perception of their role of teaching methods that cultivate 21st century literacies, and the SLMSs' incorporation of these 21st century literacies into the curriculum. A major goal of this study was to explore strategies that bridge the gap of teaching and learning between educators and students.

Context of Study

A major goal of this study was to explore strategies to bridge the gap of teaching and learning between educators and students. There is a concern among SLMSs that students are immersed in ways of learning outside formal education and are therefore unable to critically analyze situations associated with making informed decisions. An artificial setting is created when students are asked to use passive ways of learning. Alvermann contends, "Educators must support an expanded view of learning which welcomes change, responds to new media, and extends the classroom to connect with the larger society" (2002b, p. 6). The *Standards for the 21st Century Learner* (2007) was created to move students deeper into the 21st century curriculum. The four areas of the standards are: (a) inquire, think critically, and gain knowledge; (b) draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge; (c) share knowledge and participate ethically and productively as members of our democratic society, and (d) pursue personal and aesthetic growth.

Defining 21st Century Literacies.

Literacy, as defined by one of the largest collaboratively written reference encyclopedias, Wikipedia, is "reading and writing at a level adequate for communication, or at a level that lets one understand and communicate ideas in a literate society, so as to take part in that society" (2008). Literacy in the 21st century demands that the learner possess a wide range of abilities and competencies. According to the National Council of Teachers of English (NCTE), some of those abilities and competencies include:

To develop proficiency with the tools of technology

To build relationships with others to pose and solve problems collaboratively and cross-culturally

To design and share information for global communities to meet a variety of purposes

To manage, analyze and synthesize multiple streams of simultaneous information

To create, critique, analyze, and evaluate multi-media texts

To attend to the ethical responsibilities required by these complex environments (2008, para.2).

Twenty-first century literacies refer to the skills needed to flourish in today's society and in the future. These skills include a variety of areas such as visual, multicultural, informational, technological, and media skills. For the purpose of this research, literacy refers to information, technology, and media skills and how these skills impact learning.

The Technology Debate.

The industrialization of America proclaimed the start of many new technological inventions. The late nineteenth century produced advancements so swiftly that people

experienced confusion, fear and disorientation (Bellamy, 2004). A similar feeling continues to exist today with our ever-changing technological world.

An important concept set within the identification of 21st century literacies is that technology must be recognized as more than a piece of equipment such as a computer. "…once we consider the web of human activities surrounding the computer's use, we soon realize that technology is a part of life itself and not something that can be kept in a separate compartment" (Lankshear, Green, & Snyder, 2000, p. 32). In the 21st century, human activities such as communication via technology have assumed a socially critical stance in education. "…[A] critical stance means understanding the place of new technologies within contemporary history and culture and in relation to ourselves and everyday social practice" (Lankshear et al., 2000, p. 35). Using a projector or streaming video does not make for a well-rounded, 21st century classroom. This isolated use of equipment is a classic example of literacy grounded in the familiar physical world or book space. Just because educators occasionally use new technology (i.e. computer, interactive white board, etc.) does not mean that they are integrating the whole of technological literacy in an effective way. Researchers Lankshear and Knobel reiterate, "Since educational ends are directed by curriculum, and technologies are mere tools, the task of integrating new technologies into learning is often realized by adapting them to familiar routines" (2003, p. 31). The importance of incorporating technology into the curriculum as common practice is crucial as teachers make a difference in the 21st century learning environment (National Council of Teachers of English, 2008).

The difficulty of incorporating technology in the classroom is compounded by the fact that educators are being asked to manage software programs and equipment when they have not been prepared to use such tools in an effective way. Meredith Farkas states, "While it's great that we

have so much technology available to us, the flip side is that we need to figure out how to keep up with it all…" (2007, p. 43). A training gap of professional development and technological change exists. A 2008 study by Nielsen, Barry, and Staab, revealed that

> Teachers did not believe that professional development initiatives had been historically well coordinated within their schools or district. They were concerned that generally the district and school professional-development initiatives did not fit into a coherent whole but had overlapping and fragmented components. They reported that administrators frequently moved from one "bandwagon" to another without allowing adequate time for teachers to internalize skills or for data to show clear results (2008, p. 1296).

The need for knowledge and application creates the perfect conditions for the SLMS to contribute to the general health of the school learning community. Of particular importance is the partnership that should exist between the SLMS, teachers and students. *Standards for the 21st Century Learner* (AASL, 2007) states that the learner uses skills, resources and tools to share knowledge and participate ethically and productively as members of our democratic society. The guidelines that steer these standards include demonstrating "teamwork by working productively with others" (Skill 3.2.3), and to "solicit and respect diverse perspectives while searching for information, collaborating with others, and participating as a member of the community" (Skill 3.3.1). Additionally, the SLMS is charged with "fostering the full range of information concepts, strategies, and abilities students must master to profit from the global resources that are quite literally at their fingertips" (American Association of School Librarians & Association for Educational Communications and Technology, 1998, p. 3). In other words, the SLMS is

responsible for leading the way in technological advancement, teaching, and implementing 21st century skills in the school setting.

A major catalyst in the 21st century technological revolution is the World Wide Web or Internet. The first use of this phenomenon was a repository for information available on demand (Leiner et al., circa, 2003). The web has evolved from a collection of information and knowledge controlled by select individuals to a knowledge building information system among individuals that is in a state of perpetual change. This shift from static to collaborative interaction forced a clarification of terms from Web 1.0 to Web 2.0, respectively. "Some librarians think of Web 1.0 as a period in which they and their students could locate, read, and evaluate a rapidly exploding store of information, while the current Web 2.0 environment enables them to use the Web as a desktop" (Baumbach, 2009, p. 13). Heretofore, the resources most commonly available in the K-12 curriculum were pen, paper, scissors, glue, crayons, construction paper, typewriters or word processors, photographs, and videotape. Today's students have access to all of those and more: computers, social bookmarks, RSS feeds, blogs, wikis, photo editing and photo sharing sites, digital video and video editing tools, social networks, podcasts, image and text generators, and other new resources. "If school library media programs are to be relevant to today's students, we must investigate these digital tools, use them ourselves, and teach students, to use them effectively" (Baumbach, 2009, p. 13).

The Roles of the SLMS and the School Learning Community.

Inherent in this study is the ability of the SLMS to influence teachers to embrace new literacies and cultivate them effectively in the classroom. Conversely, a SLMS should be able to take what is taught in classrooms and give students a chance to apply it in a more personal way by incorporating the challenges of changing media in every aspect of their lives.

As a key player in the structure and delivery of the curriculum, the SLMS is pivotal in the success of schools that have a strong technology-rich media program. According to a study conducted by the Ohio Educational Library Media Association (OELMA), "An effective school library is not just *informational*, but *transformational*" (Todd & Kuhlthau, 2004, p. 20). That transformation is brought about by a knowledgeable and responsive SLMS. While a technologist is primarily concerned with hardware and systems software, the SLMS uses that technology in "integrating people, learning, and the tools of technology" (AASL & AECT, 1998, p. 54).

The SLMS must address the social and informal atmosphere in which students learn in order to assess new literacies. In many cases, that is difficult for those who subscribe to traditional teaching practices to grasp. One argument for using a more progressive method is that these new literacies are being invented, defined and used on the streets by our students (Lankshear & Knobel, 2003). Eventually many of these new literacies will "…become embedded in everyday social practice: the literacies against which the validity of school education will be assessed" (Lankshear & Knobel, 2003, p. 31).

The support of the school administration and the culture of the school are contributing factors in the acceptance and implementation of contemporary literacy skills. A frequent complaint heard among public school educators is the need for hands-on training with equipment and the development of a working knowledge of innovative ideas and issues relevant to the classroom. The staff development department of school systems is tasked with presenting classes and training to aid teachers, but it often falls short in offering applicable content. "Too often, professional development is perceived by teachers as being idiosyncratic and irrelevant" (Lieberman & Pointer Mace, 2008, p. 226). Another complaint often heard from the classroom teacher is that there is not enough release time allotted to attend a workshop or session that might

help to supply instruction and practice enabling the teacher to achieve proficiency (Kessler, 2007). For teachers to be considered competent in the classroom, they must have the opportunity to complete the circle of using 21st century skills while teaching with technology. "The current generation of educators is not well equipped to serve as guides in this process—we are all learning together as new media technologies emerge" (Bull et al., 2008, p. 106).

Procedure

The research utilized a qualitative approach in order to evoke a rich source of information analyzing the attitudes of SLMSs and their perceptions of 21st century literacies. This qualitative study was conducted using a Delphi survey. The Delphi technique was chosen because it seeks to obtain consensus on the opinions of respondents through a series of structured queries. The name 'Delphi' was applied to this technique in association with the temple in Greek mythology. "The temple at Delphi was the supposed location where the oracle Pythia would consult the Gods and interpret their responses for the waiting public" (A. J. Pickard, 2007, p. 125). The first questionnaire collected qualitative comments, which were fed back to the participants through a second questionnaire. This process was ongoing until consensus was obtained or the number of returns for each round showed a significant decrease. The process gathers opinion without the need to bring panelists together physically (Hasson, Keeney, & McKenna, 2000). By using successive questionnaires, opinions are considered in a non-adversarial manner, with the current status of the groups' collective opinion being repeatedly assessed. This informs the group members of the current status of their collective opinion and helps to identify items that participants may have missed or thought unimportant. This method launched a discussion of what SLMSs believe to be essential skills students must possess in order to be productive in this 21st century.

The importance for analyzing the perspectives of SLMSs in developing 21st century skills is informative to the present and future environments of a school library media center. The outcomes may contribute to the SLMSs in understanding and using new technologies and skills.

Definition of Terms

For clarification purposes, this section contains definitions of numerous terms used throughout this dissertation.

21st Century Literacies – knowledge needed to flourish in today's society and in the future including areas such as visual, multicultural, informational, technological, and media literacy (critical, creativity and representation, ethics and social responsibility, and inquiry and problem solving)

21st Century Skills – activities used to become 21st century literate such as to evaluate, find, and analyze information; to use a variety of technologies; to collaborate with others; to use information ethically and responsibly

21st Century Tools – items used to become 21st century literate such as print and digital resources; online access; visual and audio resources; and, social networking

Avatar – the graphical representation and/or virtual identity of a user within computer terminology

Blog – a website usually maintained by an individual with regular postings and commentary about various subjects. Blog is a combination of the words "web" and "log."

Collective Intelligence – a form of knowledge that emerges from the collaboration and contribution of many individuals

Critical Thinking Skills – a way of approaching a problem from several angles and using creative and diverse ways to generate a solution

Digital – a term most commonly used in computing and electronics which refers to the conversion of information into a binary numeric form

Digital Identity – a rich mosaic of who we are as presented to others in digital format

Digital Immigrant – an individual who has been introduced to the digital and technical world later in their lifetime

Digital Native – an individual who has grown up in a digital, techno-rich world

Formal Literacy – policies and practices with regard to K-12 education (Burgess, 2007) including the ability to read and write spoken text representing information

Informal Literacy - learning that occurs unprompted by deliberate facilitation

Information Literacy – a process which includes problem solving skills that enable independent and effective learning

Literacy – reading and writing at a level adequate for communication, or at a level that lets one understand and communicate ideas in a literate society, so as to take part in that society

New Literacies – the notion that literacy is social, community-based, culturally defined, varied, and potentially transformational.

School Learning Community – curriculum content integration accomplished through the collaboration of library media specialists, administrators, teachers, students, and parents.

School Library Media Specialist (SLMS) – a certified individual who has training in librarianship and usually is employed in a school setting

Social Networking Systems – online communities of individuals who share similar interests and activities and are interested in exploring the interests and activities of others

Teacher-Librarian – a certified individual who has training in librarianship, classroom experience, and usually is found in a school setting

Web 2.0 – a trend in the use of the Internet that facilitates creativity, information sharing, and collaboration among users

Wiki – a form of software that allows users to collaboratively create, edit, and organize the content of a website

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

The purpose of this chapter is to define and review the literature related to SLMSs' perceptions of and attitudes toward 21st century literacies. This chapter presents a review of literature regarding the standards in the field of school library media, the impact of the SLMS on academic achievement, and the ever-changing definition of literacy.

Emerging technologies and the use of those technologies are in perpetual movement. There is a widespread assumption that 21st century skills are connected with young people engaged with culture and knowledge, but relatively little research investigates how these dynamics operate on a daily basis (Ito et al., 2008). It is for this reason that formal research related to 21st century literacy is relevant. Additionally, there are numerous studies investigating the impact of SLMSs and media programs on student achievement, but there is a break in the literature with a specific focus on the attitudes and perceptions of the SLMS toward 21st century literacies.

The foundation for this research consists of three branches of literature. Post-modernism is the first component of this discussion, and it is the conceptual framework upon which the study is built. Because the SLMS and the media program they manage are at the center of this study, it is important to note the standards in the field of school library media and the impact the SLMS has on academic achievement is the second branch. Literacy and its changing definition are the final part of this review.

Post-modernism and the 21st Century Student

Educators of the 21st century are constantly challenged to find ways to tap into the cultural knowledge base of adolescents (Bybee & Overbeck, 2001). In this brief description, an ideological platform emerges that can be used as a starting point for connecting post-modernism to 21st century literacy. Post-modernism offers an explanation and vehicle with which to characterize social and cultural transformations pervasive in the curriculum. The theory of post-modernism steadfastly resists any efforts, local or otherwise, to validate normative concepts—it seeks to dismantle old ways of thinking, to attack existing traditions and institutions, and to open up new horizons of experience for greater individual freedom (Best & Kellner, 2001). It is from this philosophy of post-modernism that the 21st century student attempts to move beyond the limits of traditional disciplines and subject areas (Hobbs, 1998).

The word post-modernism captures an important social transition in which an individualistic personality emerges and is characterized by deconstructing ideas which are based on long standing beliefs (Hebdige, 1988; Lyotard, 1984; Muggleton, 2000). Active participation in learning is fully informed and driven by a constructed social reality that is viewed from the inside out rather than from the point of view of the detached observer (Burrell, 1988; Bybee & Overbeck, 2001).

Contemporary philosophers (Best & Kellner, 2001; Rorty, 2009) of post-modernism describe this theory as an adventure in which we need new sketches of society and culture. From this viewpoint, 21st century literacies are positioned to fit that cultural and societal change. The brave new worlds of post-modern culture and society are of interest, importance, and novelty to justify taking chances, leaving the familiar behind (Prensky, 2005/2006), and trying out new ideas and approaches.

The post-modern explanation of knowledge (Usher, 2006) is that it has become performative [based on accomplishment or fulfillment] which plays a significant role in challenging the notion of knowledge. This is the proverbial fork in the road between formal education and informal education. The 21st century literate student does not always produce a product for examination. According to Jones-Kavalier and Flannigan "new media literacy technical skills catapult traditional learning methods into orbit--traditional chalkboards and overheads with pens do not occupy the same realm as current capabilities" (2008, p. 14).

According to Gibbons, in our present post-industrialist society, knowledge has evolved to include combinations of cognitive and non-cognitive elements in creative ways:

> Knowledge can no longer be regarded as discrete and coherent, its production defined by clear rules and governed by settled routines. Instead it has become a mixture of theory and practice, abstraction and aggregation, ideas and data. The boundaries between the intellectual world and its environment have become blurred... (Gibbons et al., 1994, p. 81).

Post-modernists reject the idea of a universal truth. "Rather, all persons and groups have some version of truth that gives them power in their relationships with others" (Gutek, 2004, p. 128). In addition to the suggestion of group specific "truths," Grenz's (1996) idea is that a post-modern philosophy is embedded in a model of power--each individual's construct of reality is an assertion of power. Post-modernists give warning to be wary of those experts who claim to have a single answer in the form of universal moral and ethical principles. Post-modernists who represent the students of the 21st century "see the curriculum as a locus of struggle, a cultural war, between groups struggling to establish knowledge claims and to assert power" (Gutek, 2004, p. 131). Bybee and Overbeck (2001) see post-modern theory at work in current media

education as focusing on two recurring themes: the changing conception of personal identity and the consequences of a relentlessly ironic worldview.

Lankshear and Knobel (2007) suggest that we are at an important historical and post-modern juncture with regard to technological literacy. We are witnessing a 'surpassing' (p. 225)—of the mechanical age by digital electronics and other micro-technologies (e.g. in biology, in manufacturing, in communications). Many mechanical devices are being supplemented and enhanced by assorted electronic devices and, in many cases, merged with them, yielding amazing technologies and processes.

Changes and combinations are continuing to take place at social, economic and cultural levels. According to Lankshear and Knobel (2007), post-industrialism, post-modernism, and post-capitalism are signs of attempts to posit changes "in material circumstances, in ways of doing things, and in ways of understanding socio-historical and cultural phenomena" (p. 225). In addition, changes in culture and philosophy are integral to the new kinds of shifts being charted. Together, these respond to and assist in shaping processes and outcomes of change – including social practices and conceptions of literacies.

Collective Intelligence.

The significance of new technologies enables people to build and participate in literacy practices that involve different kinds of values, sensibilities, and norms and procedures, from those that characterize conventional literacies. When the theory of post-modernism is combined with 21st century literacy, the result can yield groups of individuals interested in similar topics who produce a collection of knowledge or collective intelligence. "Collective intelligence is the capacity of human communities to evolve towards higher order complexity and harmony,

through such innovation mechanisms as differentiation and integration, competition and collaboration" (Atlee & Pór, 2007, para. 11).

To be literate in the 21st century, an individual often becomes a part of a group that works together using skills from a multitude of sources to perpetuate a process or eventually produce an outcome. The kind of wisdom needed in a democracy should arise from within and among individuals and be compellingly real and useful to the society (Atlee & Winter, 2002/2003). Sharing our common spirit, our common life, and our common humanity are a result of our interconnectedness. We now have technological tools that allow us to collaborate more easily and in even in real time from different locations. James Surowiecki explains this decentralized approach in *The Wisdom of Crowds*, "…social scientists placed renewed emphasis on the importance of social networks, which allow people to connect and coordinate with each other without a single person being in charge" (2005, p. 70). The power of the whole does not reside in a single authority, but rather it "encourages independence and specialization on the one hand while still allowing people to coordinate their activities and solve difficult problems on the other" (Surowiecki, 2005, p. 71).

In traditional educational settings, group knowledge is not always viewed as authoritative. Robert Eiffert (2006) reviewed *Wikipedia*, the largest collaboratively written online encyclopedia, and discussed the controversy its use creates. Entries are written and edited by multiple users and its use often triggers apprehension by academicians. Being forbidden to use *Wikipedia* and other collaboratively written publications is most often ignored by the 21st century students who are comfortable and confident in finding relevant information (Eiffert, 2006). Many schools prohibit its use on campus only to find that once students leave that protected environment, they will use it anyway--there is a futility of attempting to ban a wildly popular

Web site (Harris, 2007). The resource's founder, Jimmy Wales, does caution, "I think that [Wikipedia] is a tool students should be using—but with some awareness of what it is" (Barack, 2005, p. 1). A decentralized approach to learning is a strength of 21st century literacy. At the same time this strength can also be its weakness. Because there is no central authority, there is no guarantee that valuable information which is discovered in one part of the group's system will find its way through the rest of the system. Sometimes valuable information never gets disseminated, making it less useful than it otherwise would be. *Google, Facebook*, and *Wikipedia* have overcome this weakness by capitalizing on multiple users' participation and the success is evident (Siegel, 2008). Twenty-first century literate individuals seem to be able to aggregate data for the good of the cause—whatever the cause may be.

Group participation and sharing of information is crucial to the success of social networking as is the group's primary knowledge they have about a certain topic. Student learning is improved when opportunities exist that allow for sharing. "Students need to develop skills in sharing knowledge and learning with others, both in face-to-face situations and through technology" (AASL, 2007, para. 8). A collective, informed group of individuals with knowledgeable input does not guarantee a superior process or product. Twenty-first century skills include the ability to perform productively in a democratic society thus increasing the quality. This "garbage-in, garbage-out" syndrome is characterized by Adam Siegel in a blog post, "even if you get a collective together, if they aren't incented appropriately (and I don't mean prizes) and they don't have relevant knowledge, just because you've put a group together, you're going to get garbage out" (Siegel, 2008, para. 4).

Standards and Instruction in the Field of School Library Media

In examining national standards and research literature of the field from 1950 to 1984, Craver (AASL, 1960, 1969, 1975) described the evolution of the instructional role of the library media specialist from study hall monitor to curriculum developer. The 1950s were a time of supplying resources and guiding students in their use which required a media specialist to take a passive approach to instruction. The 1960s brought increased federal funding for school libraries, and additional resources. As noted by Craver (1986), this involved a more developed but still static instructional role. Application of numerous methods of instruction and a change in educational policies in the 1970s allowed the library media specialist to become more active in classroom instruction. The 1980s gave way to a multitude of technological advances which in turn changed the role of the library media specialist to instructional designer and one who integrates technology into instruction.

Earlier national standards found in *Information Power: Guidelines for School Library Media Programs* (AASL & AECT, 1988), (*Standards for School Library Programs,* 1960*; Standards for School Media Programs,* 1969*;* and *Media Programs: District and School,* 1975) mention the instructional role of the library media specialist, however, it is in *Information Power: Guidelines for School Library Media Programs* (AASL & AECT, 1988) in which the role is presented in a more comprehensive way. According to *Information Power: Guidelines for School Library Media Programs* (AASL & AECT, 1998), the school library media program should be central to the instructional process and an integral component of the curriculum within a school. Integration is accomplished through the collaboration of library media specialists, administrators, teachers, students, and parents. The first role of the library media specialist is defined as that of an information specialist, one who not only provides appropriate resources, but

also connects teachers and students to the resources at the point of need. The library media specialist's second role is that of a teacher who instructs patrons to integrate resources into their daily search for information. The third role of the library media specialist is that of an instructional consultant who participates in the development of curriculum and instruction and actively integrates the use of technology in an effective manner.

Information Power: Building Partnerships for Learning, published in 1998 (AASL & AECT), further develops the instructional role of the library media specialist. The document's title itself is significant: school library media programs promote information power and information literacy through collaborative partnerships developed to promote learning. Central to these standards for school library media programs were nine information literacy standards for student learning. Library media specialists were charged to teach these standards to students in the context of content area curriculum:

Information Literacy

Standard 1: The student who is information literate accesses information efficiently and effectively.

Standard 2: The student who is information literate evaluates information critically and competently.

Standard 3: The student who is information literate uses information accurately and creatively.

Independent Learning

Standard 4: The student who is an independent learner is information literate and pursues information related to personal interest.

Standard 5: The student who is an independent learner is information literate and appreciates literature and other creative expressions of information.

Standard 6: The student who is an independent learner is information literate and strives for excellence in information seeking and knowledge generation.

Social Responsibility

Standard 7: The student who contributes positively to the learning community and to society is information literate and recognizes the importance of information to a democratic society.

Standard 8: The student who contributes positively to the learning community and to society is information literate and practices ethical behavior in regard to information and information technology.

Standard 9: The student who contributes positively to the learning community and to society is information literate and participates effectively in groups to pursue and generate information (pp. 8-9).

Recognizing the need to move media programs to the next level, The *ALA/AASL Standards for Initial Programs for School Library Media Specialist Preparation (National Board for Professional Teaching Standards, 2001),* approved by the *National Council for Accreditation of Teacher Education* (NCATE), emphasize the importance of practice in order to prepare the library media specialist to succeed as an instructor. Two of the four standard categories focus on instruction: Standard 2, Teaching and Learning, and Standard 3, Collaboration and Leadership. Seven of the thirteen elements directly address instruction and must prove that their candidates have mastered the following: 1.1 Efficient and Ethical Information-Seeking Behavior, 1.4 Stimulating Learning Environment, 2.1 Knowledge of

Learners and Learning, 2.2 Effective and Knowledgeable Teacher, 2.3 Information Literacy Curriculum, 3.2 Instructional Partner, and 3.3 Educational Leader. Applicants completing these library media specialist preparation programs must provide evidence of effective teaching and must demonstrate that they provide a positive impact on student learning.

In October of 2007, AASL released its *Standards for the 21st Century Learner*. *Standards for the 21st Century Learner*

> embody core beliefs such as reading as a window to the world, inquiry as a learning framework, ethical information use, technology skills for future success, equitable access to information, broadening information literacy to encompass new media and technology, thinking skills for independent learning, learning as a social context, and school libraries as essential to learning (AASL, 2007).

In addition to identifying nine common belief statements and the indicators of what makes an information literate student, *Standards for the 21st Century Learner* also includes four conceptual areas: Standard 1: Learners will use skills, resources, and tools to inquire, think critically, and gain knowledge (AASL, 2007, p. 4). This standard ensures that students use the library to link what they are learning to what they already know. Standard 2: Learners will use skills, resources, and tools to draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge (AASL, 2007, p. 5). This standard encourages students to organize and apply information to allow them to collaborate with others and draw meaningful conclusions. Standard 3: Learners will use skills, resources, and tools to share knowledge and participate ethically and productively as members of our democratic society (AASL, 2007, p. 6). This standard promotes the idea that student writing, technology use, collaboration, and communication should be oriented toward helping students participate in the community and be

globally knowledgeable. Standard 4: Learners will use skills, resources, and tools to pursue personal and aesthetic growth (AASL, 2007, p. 7). This standard embraces leisure pursuits as worthwhile complements to school work and a support for student learning. Although the teaching role of the school library media specialist is valued, Georgia does not require that a library media specialist be licensed as a teacher (Georgia Department of Education, 2008a). A master's degree or higher is required. Library media specialists in Georgia public schools choose one of two routes to earn licensure from a state approved college or university media program. Either they hold an endorsement in a content area and add Library Media P-12 to their teaching certificate through the completion of library media coursework and a supervised practicum experience, or, they come to education from another career field where they complete nine credit hours in professional education studies plus their required library media coursework and the supervised practicum experience. In addition, candidates must pass the state media certification test--Georgia Assessments for the Certification of Educators (GACE) (Georgia Department of Education, 2008a).Georgia standards for school library media programs emphasize four major requirements: 1. The program shall prepare candidates who encourage reading and lifelong learning by stimulating interests and fostering competencies in the effective use of ideas and information as well as apply a variety of strategies to ensure access to resources and information in a variety of formats to all members of the learning community. Candidates promote efficient and ethical information-seeking behavior as part of the school library media program and its services. 2. The program shall prepare candidates who model and promote collaborative planning with classroom teachers in order to teach concepts and skills of information processes integrated with classroom content. They partner with other education professionals to develop and deliver an integrated information skills curriculum. Candidates design and implement instruction that

engages the student's interests, passions, and needs which drive their learning. 3. The program shall prepare candidates who provide leadership and establish connections with the greater library and education community to create school library media programs that focus on students' learning and achievement encourage the personal and professional growth of teachers and other educators, and model the efficient and effective use of information and ideas. 4. The program shall prepare candidates to administer the library media program in order to support the mission of the school, and according to the principles of best practice in library science and program administration (Georgia Department of Education, 2008b).

Impact of the School Library Media Specialist on Academic Achievement.

Various studies completed in several states have proven that student achievement is noticeably higher when library media specialists actively collaborate in instruction. Lance (2005) researched the correlation between library indicators and Illinois fifth graders' scores on the Illinois Standards Achievement Test (ISAT) reading and writing portions. Important components connected improved reading scores (13%) and higher writing scores (17%) to increased library staffing; improved reading scores (6%) and increased writing scores (11%) to higher book circulation; improved reading scores (7%) and higher writing scores (11%) to more current library collections; and improved reading scores (10%) and higher writing scores (11%) to libraries with a flexible schedule. As mentioned by Lance, Rodney, & Hamilton-Pennell (2000), as library media specialists actively participate in instruction, student achievement improves as measured by standardized test scores. In the Colorado Student Assessment Program (CSAP), Lance et al. (2000) created a side-by-side comparison of reading test scores of fourth graders from schools with well-developed library media programs, classified in terms of budget, collection, and staffing, to scores for fourth graders in schools with less-developed library media

programs: reading scores were 18% higher in schools with more fully developed library programs. Additionally, reading scores for students in schools with the most collaborative programs were 18% to 21% higher than for students in schools where the least collaboration occurred. In schools where library media specialists planned cooperatively with teachers, provided in-service training to teachers, and taught information literacy skills to students, scores were higher. Baughman (2000) compared the relationship of library media programs in schools to Massachusetts Comprehensive Assessment System (MCAS) math, language arts, and science scores. He discovered that test scores were higher in elementary schools that employed a full-time library media specialist, library clerical staff, and had access to larger budgets. He noted other positive differences at the elementary level when the presence of an instructional program in library information skills was aligned to the state curriculum framework. The scores of fifth graders on Oregon's state reading test were reviewed by Lance, Rodney, & Hamilton-Pennell (2001). School library media centers who had more numerous print collections, had a larger number of individual student visits and group visits to the library media center for instruction in information literacy demonstrated higher reading scores. As the number of engaged library staff increased and as the library media specialist increased his/her involvement in activities to improve teaching and learning, the number of student visits to the library also increased. Smith (2001) collected data from a random sample of Texas school library media centers and explored the implications that school library media programs had on student performance on the reading component of the Texas Assessment of Academic Skills (TAAS). Among elementary schools, she found a positive and statistically significant connection between the schools' reading test scores and the library media specialist collaborating with classroom teachers, providing ongoing training to teachers, and taking an active role in instruction alongside the teacher. In analyzing

Iowa schools, Rodney, Lance, and Hamilton-Pennell (2002) studied the correlation between school library media programs and reading scores on the Iowa Test of Basic Skills (ITBS). For fourth graders in schools whose library media programs had more staff hours per week, whose library media staff spent more hours per week collaborating with classroom teachers and updating computer information networks, and whose students had more in-library usage of resources, reading scores were higher. Using data collected from 208 elementary schools in New Mexico, Lance, Rodney, & Hamilton-Pennell (2002) investigated fourth graders' scores on the language arts portion of the New Mexico Achievement Assessment Program. More improved language arts scores were found in schools where the library was better staffed, where the library collection contained more print materials and more subscriptions to electronic databases, and where the library media specialist spent more time meeting weekly with administrators, providing staff development training for teachers, and promoting reading. Rodney, Lance, & Hamilton-Pennell (2003) examined the effect of school libraries on students' academic achievement in reading on the Michigan Educational Assessment program (MAEP). It was discovered the test scores of fourth graders increased as students spent more time in the library. These same test scores increased as the library media specialist increased the time spent more time developing collections, planning and working cooperatively with classroom teachers and guiding students in the implementation of information literacy skills.

Todd and Kuhlthau (2005) led a study in Ohio exploring ways in which library media specialists and library media programs assisted student in the learning process. In researching over 13,000 pupils who were served by 39 effective school media centers, it was determined that school library media specialists in Ohio are agents of resources, information literacy development, knowledge construction, academic achievement, independent reading and personal

development, technological literacy, and individualized learning. The instruction given by library media specialists is most comprehensive in the elementary school where teachers and students require the most assistance to grow into information-literate, independent learners.

The school library media center provides a repository of a wide range of resources and information that can help satisfy the educational needs and personal interests of students. Such a vast collection of materials allows for imagination expansion, the development of critical thinking skills, and creative exploration.

School Library Media Specialists' Perceptions of Their Instructional Role.

Researchers have performed studies to evaluate library media specialists' perceptions and performance of this role and to determine components that provide measurable data for improvement. Master and Master (1988) examined Nevada school library media specialists to determine self-perceptions of their position as curriculum and instructional leaders among their peers. Seventy-nine percent of the 167 respondents saw themselves as teaching information literacy skills, promoting reading, and supporting content area instruction as school instructional leaders. Seventy percent of the respondents indicated that the principals' comprehension and encouragement of their teaching role was an important component in how they were seen by the school learning community. Elementary school library media specialists placed teaching information literacy skills at the top of the scale involving their daily routine tasks and placed administrative and clerical responsibilities at the bottom of the scale.

Ervin (1989) examined the educational background of 200 South Carolina school library media specialists which included their experiences as classroom teachers and as library media specialists, their educational level, and the subject they taught prior to becoming a school library media specialist. She also considered their philosophical acceptance of the role, their perceived

assumption of the role, and the challenges they perceived in role implementation. Of the library media specialists responding, 89.1% accepted their curricular, instructional role, and 63.4% felt that they were implementing it. Challenges that were noted included minimal time and other teachers' inability to understand or value the role. A significant relationship was not found between the demographic factors and the assumption or acceptance of the curricular, instructional role. Ervin summed up her study with recommendations that administrators in South Carolina schools should be surveyed to evaluate their awareness of the leadership potential of the library media program and organizational factors such as flexible scheduling be investigated.

Pickard (1993) surveyed 126 DeKalb County, Georgia, library media specialists to determine the importance of the perception of their role as a curriculum designer and collaborator and the degree to which they viewed they were participating in this role. She combined questionnaire answers into the categories of reactive, proactive, and interactive. The reactive tasks were scored lowest on the curriculum involvement scale and interactive tasks were scored highest on the instructional involvement scale. More than half of the respondents evaluated statements describing their curriculum role as very important or important, however only 10% suggested that they participated in these activities to a great or very great extent.

Johnson (1993) questioned library media specialists from 87 rural public schools in 21 southern Illinois counties to evaluate the degree to which they understood and practiced the curriculum consultant role as defined in the *1988 Information Power: Guidelines for School Library Media Programs*. Using Pickard's (1993) grouping structure of reactive, proactive, and interactive, she determined that library media specialists regularly scored interactive tasks higher in perceived importance than in actual practice. Limited funding and minimal use of

paraprofessional assistance were mentioned as challenges. Of the elementary library media specialists questioned, only 25% felt that they worked at the interactive level, collaborating as teacher and academic developer.

Using the work of Pickard (1993) and Johnson (1993), Putnam (1996) built upon the instructional consultant role at the elementary school level. She collected her random sample of 296 from members of the American Library Association. Her findings showed that even though elementary library media specialists acknowledged the importance of their curriculum design and consultant role, they did not practice it as extensively. In addition, Putnam compared fixed scheduled library media programs with flexible schedule library media programs. Results indicated that those library media specialists whose programs operated on a flexible schedule were able to practice their instructional role more than those library media specialists whose programs were fixed.

Tallman and van Deusen (1995) conducted a survey with a random sample of 1500 elementary school library media specialists to evaluate factors that made a difference in their ability to integrate their instructional role by collaboratively working with classroom teachers to include information skills instruction with content area curriculum through comprehensive lessons. Notable results indicated the following: in educational settings where administrators set the expectation for collaboration between classroom teachers and the library media specialist, more of a team approach occurred; library media specialists who consulted with groups of classroom teachers reported more cooperation than those who consulted with teachers independently; library media specialists with flexible scheduling options noted significantly more instruction and more curriculum collaboration than those with fixed schedules; library

media specialists with a flexible schedule reported 62% of their lessons were designed in conjunction with teachers, compared to 22% for library media specialists with a fixed schedule.

Shannon (1996) evaluated 61 school library media coordinators in Kentucky to determine how major academic reform efforts in the state had made an impact on the school library media programs. Seventy-seven percent of participants noted that students' use of the library media center had changed significantly since 1990. Seventy-four percent reported that their library/information skills curriculum had changed, and 66% noted that their role as a teacher had changed. Curriculum, cooperation and collaboration with classroom teachers was noted, especially when textbooks did not dominate the curriculum. Difficulties associated with the development of exemplary programs included lack of funding, lack of time, lack of clerical support, and lack of flexible scheduling. Another barrier was the principals' lack of understanding of the library media specialist role.

Van Deusen (1996) made use of a qualitative method that used a case study approach in determining the contributions an elementary school library media specialist made to the academic preparation process. Three categories of contributions were found. First was the resources category, in which the library media specialist connected teachers to quality resources needed for instruction. Next was the planning category, in which the library media specialist was actively involved and contributed to the planning of lessons and units. The final category was coordination, in which the library media specialist demonstrated the capacity to see the school, instruction, and learning as a whole rather than from an individual classroom teacher's perspective. Classroom teachers remarked that the library media specialist improved the quality of instruction for students.

McCarthy (1997) used both survey and observation to evaluate 48 library media programs in New England to examine how well the roles of teacher, information specialist, and instructional consultant, were being implemented according to *Information Power: Guidelines for School Library Media Programs* (AASL & AECT, 1988). Forty-two percent of the library media specialists who responded believed that the principles noted in *Information Power* were attainable in their schools, while 27% reported that they were somewhat attainable. Reasons given for negative responses included a lack of the ability to vary scheduling and the lack of paraprofessional support. Library media specialists who worked with flexible scheduling options noted that the best aspect of their program was the integration of the library program into the curriculum through collaborative planning with teachers. This resulted in more comprehensive lessons for students. Library media specialists who worked with fixed scheduling options mentioned that library time was considered as planning time for teachers and that it was hard to correlate the library program with the curriculum through collaborative efforts.

McCracken (2000) used a random sample of the opinions of 1000 K-12 library media specialists across the United States to evaluate their perceptions of the roles set forth in the 1988 *Information Power: Guidelines for School Library Media Programs* (information specialist, instructional consultant, teacher) and the 1998 *Information Power: Building Partnerships for Learning* (information specialist, instructional partner, program administrator, teacher). She explored the perception of the importance of the role to the library media specialist as well as the perception of the level of actual practice of the role. Her results demonstrated that, for all roles, library media specialists rated them higher in importance than in actual practice. Roles were ranked as follows: information specialist, program administrator, teacher, instructional partner, and instructional consultant.

McCracken (2000) also discovered that the scheduling format at the elementary level influenced the ability of the library media specialists to carry out their roles. Elementary school library media specialists who worked under flexible scheduling were better able to execute their roles than those who worked under fixed schedules. Library media specialists made note that administrative support was the most important factor for expanding their roles. Challenges in carrying out their roles included a decreased amount of time, minimal funding, inadequate teacher support and interest, a fixed schedule, and a lack of clerical and administrative support.

Lance, Rodney, and Russell (2007) examined the perceptions of Indiana library media specialists, administrators, and classroom teachers as related to library programs and the influence of these perceptions on Indiana Statewide Testing for Educational Progress-Plus (ISTEP+) test scores in reading/language arts and mathematics. Results indicated that test scores increased in elementary schools in which library media specialists believed that the school community understood their roles as educational program designers and school leaders.

National guidelines demand that library media specialists work in the role of instructor while collaborating with classroom teachers (American Association of School Librarians, 2009) When library media specialists actively participate in the educational program of their school, student achievement increases. Library media specialists work to implement their roles of teacher and instructional partner (Lance et al., 2001). Collaboration with classroom teachers, administrative and clerical support, and flexibly scheduled media programs are all common themes identified throughout the studies examined.

> School libraries have the most significant impact on learning outcomes when they are supervised by a library media specialist, who works collaboratively with teachers, to help all students develop a love of reading, become skilled users of

ideas and information, and explore the world of print and electronic media resources (Scholastic Library Publishing, 2008).

Studies undertaken across the United States and Canada document the impact of school libraries on student learning. Many of these studies validate the leadership role that certified library media specialists in school libraries have played in cultivating the environment for access to information and learning in schools. Findings of these studies show a correlation between student achievement and school library programs led by certified school librarians who, across a range of dimensions, "assist teachers and students to search out their information needs, critically evaluate the materials they locate, and use technological means to synthesize their findings into new knowledge" (Scholastic Library Publishing, 2008, p. 9). Research studies in Ohio (Todd & Kuhlthau, 2005), Delaware (Todd, 2006), and Australia (Hay, 2006), demonstrate that students and classroom teachers clearly perceive the vital importance of certified library personnel in the school library media center.

Literacy

Literacy, is defined as reading and writing at a level adequate for communication, or at a level that lets one understand and communicate ideas in a literate society, so as to take part in that society; it is neither a set of mental skills or a social performance but a concept that embraces the cultural resources of a literate tradition called societal literacy (Griswold, McDonnell, & Wright, 2005; Wikipedia, 2008). Literacy in the 21st century demands that the learner possess a wide range of abilities and competencies along with new tools and strategies and greater knowledge of effective communication (Jones-Kavalier & Flannigan, 2008; Lankshear & Knobel, 2003; Leu, Kinzer, Coiro, & Cammack, 2004).

In the AASL *Standards for the 21st Century Learner*, information literacy has become

more complex as resources and technologies have changed (ALA, 2007). Literacies now include the digital, visual and technological, as well as the textual. Today's student has many tools available, including podcasting, RSS feeds, blogs, photo sharing, video sharing, social book marks, mapping, productivity tools, presentation tools, polling tools, quiz and list tools, calendar tools, event project management, web start pages, social networking which includes, texting, wikis, discussion boards, and emailing (Baumbach, 2009).

New Literacies.

William Kist posits that a focus on the social practices coupled with events associated with literacy have formed the core of what have become known as the *New Literacy Studies* (Kist, 2005). Students of the 21st century are independently communicating and learning in the social arena using new literacies. In *Teachers and Technoliteracy: Managing Literacy, Technology and Learning in Schools* (Lankshear et al., 2000), literacy education continues to involve students learning and using old skills, but applying them in new ways via innovative technologies and new media. A more precise definition of these new literacies may never be possible to achieve because their most important characteristic is that they change regularly; as new technologies for information and communication continually appear, still newer literacies emerge. However, in order to move forward, Leu has framed the following definition:

> The new literacies of the Internet and other information and communication technologies (ICTs) include the skills, strategies, and dispositions necessary to successfully use and adapt to the rapidly changing information and communication technologies and contexts that continuously emerge in our world and influence all areas of our personal and professional lives these new literacies allow us to use the Intent and other ICTs to identify important questions, locate

> information, critically evaluate the usefulness of that information, synthesize information to answer those questions, and then communicate the answers to others (Leu et al., 2004, p. 1572).

Literacy may be thought of as a moving target, continually changing its meaning depending on what society expects literate individuals to do. As societal expectations for literacy change, and as the demands on literate functions in a society change, so too must definitions of literacy change to reflect this moving target (Lankshear & Knobel, 2003; Leu et al., 2004).

21st Century Literacies.

Asselin and Doiron (2008) stated that far too little research has been conducted in the areas of evolving literacies. Moreover, these literacies change regularly as technology opens new possibilities for communication and information. Consider the changes experienced by students who graduate from secondary school this year. Their story teaches us an important lesson about our literacy future. Many graduates started their school career with the basic paper, pencil, and book technologies but will finish having encountered the literacies demanded by a wide variety of information and communication technologies (ICTs), Web logs (blogs), video editors, World Wide Web browsers, Web editors, e-mail, presentation software, instant messaging, plug-ins for Web resources, listservs, bulletin boards, avatars, virtual worlds, and many others. These students experienced new literacies at the end of their schooling unimagined at the beginning. The snapshot of literacy research becomes significant as we continue to swing with the pendulum of change.

Twenty-first century literacies refer to the skills needed to flourish in today's society and in the future. These literacies are continually changing as technology opens new possibilities for communication and information (Jones, 2000). These skills include a variety of areas such as

visual, multicultural, informational, technological, and media skills. It is believed that the most important skills for educators to consider cluster around the Internet and allow students to develop the extensive ICTs that become available in an online, networked environment. In an information age, it becomes essential to prepare students for these new literacies because they are central to the use of information and the acquisition of knowledge (Chandler & Cortada, 2000).

According to Weaver, Anijar, & Daspit (2003), curriculum theorists have begun to see information technology as something more that a tool that manipulates and appeases its users. Information technology is seen as an extension that enhances human possibility, as an extension of reality that constructs the virtual as more real than the real, and as an extension of the democratic process in which people can communicate with people beyond their physical boundaries.

Students entering the workforce in this 21st century technological age are expected to perform at the highest levels. Technology is often the fundamental component as companies compete in our global economy. Workplaces must seek more productive ways of achieving their goals if they hope to survive. Businesses have begun to transform and adapt their decision-making structure from the vertical, top-down method to more of a horizontal team approach When decisions are made at the highest levels and then communicated to lower levels, much of the intellectual capital is wasted.

Literacy instruction should be guided by the elements of change that characterize the workplace of today. Collaborative teams are expected to find more effective ways of working. This has significant consequences for educational institutions that will need to provide students with greater preparation in identifying important problems and then solving them, often in

collaborative situations. The new literacies required to effectively use ICTs to accomplish these functions are central to success in an information age.

Web 2.0.

R. J. Todd (2008) reports, "Web 2.0 is typically defined as the second generation of Web-based environments which seek to facilitate communication, community, collaboration and creativity between users" (p. 30). Web 2.0 and its applications are a heterogeneous mix of existing and emerging technologies that move beyond the static or unchanging web page. This functional space includes social network sites, blogs and online diaries, wikis, podcasts, and videoblogs. It is a networked digital environment built on technical structures for facilitating participation, and interaction and user-generated content. In effect, Web 2.0 is a platform that moves beyond the selection of ideas, to facilitating the creation and production of them. Todd (2008) goes on to explain that while the Web has been fundamentally about connectivity and access to vast stores of information, and consumption of fixed content, Web 2.0 appears to have shifted the focus of Web applications from information to people's active interactions with information, networking, and the construction of and sharing of ideas. It is a shift from an information environment—one of finding locating and evaluating information—to one of using information, creating knowledge and sharing of ideas. "While teens continue to consume content provided on the Worldwide Web to meet their curriculum requirements and personal needs, they are also becoming active in creating their own content and using social networking technology to share it" (Rose, 2007, para. 2).

Michael Wesch has been called "the explainer [of Web 2.0]" by *Wired* magazine (Wesch, 2007b). In his attempt to explain Web 2.0 and its importance to higher education, Dr. Wesch

created a short video titled, “Web 2.0…The Machine is Us/ing Us,” (Wesch, 2007a). An interview with Wesch and review of the wildly popular video is below:

> The video delivers a quick history of the Web and highlights the most significant differences between paper-based media and digital media, focusing especially on the ability of digital media to separate form and content. In the video I argue that this allowed more users to create content without needing to know complicated formatting codes, opening the way for the user-generated revolution we are now witnessing (Rose, 2007, para. 7).

In this short film, Wesch demonstrates concepts like hypertext, tagging, mashups, and wikis. His creative use of cutting quickly between screenshots shows him bookmarking Web sites with del.icio.us, creating a blog with Blogger, and posting pictures on FlickR, makes these concepts understandable. According to an article in *Wired*, *The 2007 Rave Awards,* Wesch, whose video was viewed 1.8 million times on YouTube in six weeks, now has his digital-ethnography class conducting participatory research about YouTube itself. He is exploring the impact of new media on society and culture.

Summary

This review of literature demonstrates the relationship between post-modernism and the 21st century literate individual. Teaching and learning in this new millennium is rich with opportunities, contradictions, and innovative practices. The argument can be made that our post-modern condition allows the substitution of freedom for Truth as the goal of thinking and of social progress. When the theory of post-modernism is combined with 21st century literacy, the result can yield groups of individuals interested in similar topics who produce group knowledge or collective intelligence. “Collective intelligence is the capacity of human communities to

evolve towards higher order complexity and harmony, through such innovation mechanisms as differentiation and integration, competition and collaboration" (Atlee & Pór, 2007, para. 11).

Research continues to show the importance of the school library media program and student achievement (Lance et al., 2000; P. Pickard, 1993). In addition, standards in the field of school library media are keeping pace with the change in technology. *Standards for the 21st Century Learner* (AASL, 2007), *Empowering Learners* (AASL, 2009), and the *International Society for Technology in Education* (ISTE) (International Society for Technology in Education, 2008) are a few of the professional organizations offering guidelines for educators and students.

The standard definition of literacy—the ability to read and write-- has changed. Literacies now include the digital, visual and technological, as well as the textual. Today's student has many tools available, including podcasting, RSS feeds, blogs, photo sharing, video sharing, social book marks, mapping, productivity tools, presentation tools, polling tools, quiz and list tools, calendar tools, event project management, web start pages, social networking which includes, texting, wikis, discussion boards, and emailing (Baumbach, 2009). Twenty-first century literacies refer to the skills needed to flourish in today's society and in the future. These literacies are continually changing as technology opens new possibilities for communication and information (Jones, 2000).

CHAPTER 3

METHODS AND PROCEDURES

Statement of the Problem

Because the SLMS is expected to become a leader in the instruction and implementation of various technologies in the classroom (AASL & AECT, 1998), the SLMS must identify and examine his/her own beliefs (Nespor, 1987; Pajares, 1992), and perceptions regarding the use of technology and 21st century literacy skills as they attempt to bridge the gap between teaching and learning. This researcher examined the perceptions among SLMSs with regard to their role in helping students develop 21st century literacies.

The conceptual framework guiding this study is rooted in the ideology of post-modernism and the ubiquitous technology of the 21st century. It must be realized that technology, especially the computer, is now an integral part of life (Lance et al., 2000). In the arena of education, the traditional tools of chalkboards and overheads with pens must make room for 21st century literacy tools and skills. Much of today's curriculum is reflective of the social and cultural influences that stem from society's embracing of post-modern thought (Bybee & Overbeck, 2001).

The study analyzed the complexities and processes of education as they are linked to business, family, government, and technology. The linkages between these four fields are pivotal if education is to meet the needs of students for the twenty-first century. The potential exists for the development of an innovative plan that will allow school officials to step into the future by capitalizing on the strengths and needs of our society. The current and future health of America's 21st century economy depends directly on how broadly and deeply Americans reach a new level of literacy—"21st Century Literacy"—that includes strong academic skills, thinking, reasoning,

teamwork skills, and proficiency in using technology (21st Century Workforce Commission, 2000). These literacies are continually changing as technology opens new possibilities for communication and information (Jones, 2000) requiring skills necessary for successfully evaluating a variety of paradigms such as visual, multicultural, informational, technological. It is believed that the most important skills for educators to consider cluster around the Internet and allow students to develop the extensive ICTs that become available in an online, networked environment. In an information age, it becomes essential to prepare students for these new literacies because they are central to the use of information and the acquisition of knowledge (Chandler & Cortada, 2000).

To function in today's society, "one must be competent in a variety of print and electronic technologies" (Todd, 2008, p. 24). A plan for incorporating technology into the curriculum is important as teachers seek to make a difference in the 21st century learning environment (NCTE, 2008). For teachers to be considered competent in the classroom, they must have the opportunity to complete the circle of using 21st century skills while teaching with technology. "The current generation of educators is not well equipped to serve as guides in this process—we are all learning together as new media technologies emerge" (Bull et al., 2008, Summary section, para. 2).

Even though this current generation of educators may sometimes feel inadequate in using new technologies, the SLMS in his professional capacity is expected to lead the way in teaching and implementing 21st century skills in the school setting (AASL, 2009). Furthermore, the important role of the SLMS in coordinating a media program, "… will do more for the academic success of a school and community than any stand-alone curricular program that money can buy" (Whelan, 2003, p. 45).To achieve the needed technology integration or implementation, Sugar

(2002) emphasized the importance of addressing teachers' beliefs and removing certain barriers in order to achieve that integration. Teachers' beliefs affect the way they perform in the classroom, most notably in the area of technology usage (Park & Ertmer, 2007). As noted earlier, an important role of the SLMS is to lead the school community toward curricular success. Beliefs and perceptions are critical in incorporating the many recent and emerging technological discoveries into a media program. While there is a great deal of current research about technology and informal ways of using that technology, there is less research with regard to the specific perceptions and practices of SLMSs as they use, and are expected to teach, 21st century literacy skills. In a study conducted by Kellenberger (1997), he noted that *perceptions* regarding the relevancy of technology in schools can impact its actual use. The correlation between the SLMS and this relevancy of technology must be a shared vision. This framework led to the development of the following research questions.

Research Questions

Determining the efficacy of learning how to learn while using technology versus more traditional methods is ranked as one of the highest priorities in educational technology. The purpose of this study was to examine SLMSs' perceptions regarding 21st century literacies and to evaluate these perceptions. Its focus was threefold: the identification of 21st century literacies by the SLMS, the SLMSs' perception of their role of teaching methods and skills that cultivate 21st century literacies, and the SLMSs' incorporation of these 21st century literacies into the curriculum. A major goal of this study was to explore strategies to help bridge the gap of teaching and learning between educators and students.

The Delphi Technique

The literature describing the Delphi method indicates that the Rand Corporation was the first to make use of this type research. Specifically, Olaf Helmer and Norman Dalkey were pioneers in Delphi research and were hired by the Rand Corporation in the 1950s. Rand preferred the Delphi method of research because it provided, "the most reliable consensus of opinion of a group of experts" (Buckley, 1995, p. 16). The Delphi process has been found to be an appropriate tool to bring together a panel of experts for the purpose of creating a dialog and ranking input. Experiential information was gathered from a study by Ziegler (1995) noting that experts were on an equal plane with the other participants, and that everyone had the opportunity to express their points of view without intimidation. The Delphi process allowed the panel of experts to respond from the place of their choice and in a time meeting their needs. It also removes the possibility of any direct confrontation of the experts while it "eliminates any direct confrontation of the experts and allows them to reach consensus based upon increasingly relevant information" (Cunningham, 1982, p. 130).

In a Delphi study by Ziegler (1995), experts agreed that the multi-layered, open-ended questions yielded a great deal of information with regard to the topic, *A Delphi Study of American Schools' Performance in Preparation of Students for the Twenty-first Century*. Although this was a strong point of the study, the gathering of research information was a task that exceeded the estimated time involved in the Delphi method as reported in the literature. In Ziegler's study, several participants commented about the tremendous amount of time involved in the process. The ranking of five issues complicated the analysis, increased the amount of analysis needed, and increased each participant's time requirement. The participants indicated that this step in the process was extremely difficult. Therefore, due to concerns noted in the

study done by Ziegler (1995), brevity is a consideration in this researcher's investigation. Additionally, the advent of 21st century technologies could assist with reducing the time requirements as well.

The Instrument.

The Delphi technique was chosen as the data collection strategy for this study for several reasons. The Delphi is a particularly good research method for deriving consensus among a group of individuals having expertise on a particular topic, where information sought is subjective and where participants are separated by physical distance (Borg & Gall, 1979; Dalkey & Helmer, 1962-63; Linstone & Turoff, 1975). In fact, since its inception, the literature has demonstrated that the Delphi method is a reliable empirical method for consensus-reaching in a number of areas, including distance education (Thach & Murphy, 1995), journalism (M. Smith, 1997), visual literacy (Brill, Kim, & Branch, 2000), electronic commerce (Addison, 2003) , health care (Melpignano & Collins, 2003), and numerous others (Cochran, 1983; Linstone & Turoff, 1975). In addition, the Delphi technique is a prescribed methodology for cases when participants hail from different professions, because anonymity provides a layer of protection for individual voices (Gustafson, Shukla, Delbecq, & Walster, 1973). Thus, the Delphi technique meets the goal of collecting data from individuals with 21st century literacy expertise across locations.

Sampling of Subjects.

The number of subjects for a Delphi research study can vary. Delbecq, Van de Ven, and Gustafson (1975) suggest that 10 to 15 subjects could be sufficient if the background of the Delphi subjects is homogeneous. Other studies suggest that the sample size could range from four (Frankfort-Nachmias & Nachmias, 1996) to 171 (Skulmoski, Hartman, & Krahn, 2007).

The target population for the study was SLMSs who were currently employed in the state of Georgia. To create a sampling frame, two methods of solicitation were used: the Georgia Library Media Association (GLMA) listserv, and the 2002-2009 recipients of the Georgia Department of Education (GaDOE) Exemplary Library Media Program.

There are approximately 766 members on the GLMA listserv (O. P. Cooper, personal communication, December 2009). Thirty-two members who were identified as consistent, active participants in discussions on the site were asked to populate the panel for the research. These members were purposefully selected as potential candidates due to their observed willingness to participate in on-line discussions.

Additionally, forty-six SLMS recipients of the GaDOE Exemplary Library Media Program were considered as potential candidates for the study. These individuals and/or their programs have shown outstanding levels of proficiency in the five categories of a Georgia School Library Media Program Evaluation. The areas include: (a) Student Achievement and Instruction, (b) Staffing, (c) Facilities, Access, and Resources, (d) Administrative Support, and (e) Staff Development (Georgia Department of Education, 2002). The names of the award winners were cross-referenced with the thirty-two GLMA listserv participants. Potential candidates from both sources identified were currently employed in a Georgia school at the time the study was generated and their names were organized in a file. In order to obtain a final sample of 10-20 participants, a total of 78 individuals meeting the study requirements were asked to participate.

Procedures

Delphi study procedures call for the collection of data from identified experts in response to an open-ended initial question based on a particular subject area. Delphi survey questions vary

depending on the objective of the researcher. Question content can elicit either factual or subjective information. Questions asked can be closed-ended, open-ended, or contingency. The type of question(s) used depends on the research aim. The question formats can be structured/unstructured, rating, matrix, ranking, or semantic differential. One significant factor to consider when constructing a questionnaire is avoiding bias. This can be accomplished by wording a question so that the respondent understands it, or by varying the response category (Skulmoski et al., 2007).

A particular area of concern when conducting a Delphi study is the development of the initial questions. The questions must be carefully written in order to aim responses toward the desired outcome, yet not so directive as to bias experts' responses (Yetim & Turoff, 2004). In this study, two open-ended statements or questions that allowed study participants to elaborate freely on their responses were created.

The Delphi method requires the entire process to be outlined, with a timetable, to establish an estimated time for completion. "It [the timetable] was [is] important to ensure that the process moved along" (Howze & Dalrymple, 2004). The timeline for this research including Institutional Review Board (IRB) approval, was 13 weeks; seven weeks were allotted for the panelists to complete the two surveys.

- Emailed introduction to possible panelists, asking for their assistance with the research. This correspondence included consent form and first-round question. Response time, 16 days.
- Researcher received responses and prepared Round Two question. Time allotted, 17 days.
- Round Two question sent. Response time, 7 days.

- Researcher received responses and analyzed data. Allotted time, 5 weeks

Research Design

The study consisted of two rounds. The first round of the survey posed the initial question while also identifying the panel. The panel is defined as field practitioners or the individuals involved in the work on a daily basis. The second round discussion statement or question directed the panel in a slightly different direction, making use of the responses from Round One as a springboard for gaining more information. Additional comments were solicited to capture any new ideas stimulated by reading others' anonymous responses to the first statement. The responses to this second statement resulted in more issues and ideas being generated. The results were gathered and analyzed.

Round One.

The objective of the initial inquiry was to discover how SLMSs' perceptions of 21st century literacies influence the curriculum. As noted by Sugar (2002), beliefs of teachers are reflected in their actions in the classroom. In the study, the researcher was working from the assumption that the SLMSs who were surveyed were knowledgeable of the AASL standards and that their current instructional objectives reflected their perceived role in enabling students to move toward acquiring 21st century literacy skills. In reality, the standards may have made no difference at all, or the SLMSs may have made varying degrees of adjustment, incorporating some of the skills, in order to meet the standards. In this round, the prompt focused on the identification of 21st century skills by the SLMS, the SLMSs' perception of their role of teaching methods that cultivate 21st century literacies, and the SLMSs' incorporation of these 21st century literacies and/or skills into the curriculum. The researcher captured the information from these responses

and compiled the results which were used in the formation of the Round Two.

Round Two.

A statement was made to remind respondents of Round One, and then they were asked to prioritize the consensus of responses or other considerations from Round One. The goal for Round Two was to determine what skill and/or tool the SLMSs perceived to be most important for students to master if they are to be successful in the 21st century.

Summary

Chapter three described the methods and procedures that were used in this research. The group's definition of 21st century literacies which included skills and tools necessary for success were identified and modified for the use of the Delphi technique. Information and data from this study were used to understand the perceptions from SLMSs regarding 21st century literacies. The Delphi technique engages experts in responding to a single query and subsequent contribution based on initial responses. First, the collective meaning of the term 21st century literacies was identified by the researcher. Second, the skills and tools identified as important in the definition were used to construct a ranking scale. Next, an open-ended statement prompted the participants to elaborate on their perception of the use of skills and tools in the media program. The results of data collection and analyses of the findings are presented in Chapter Four of this research study.

CHAPTER 4

RESULTS

Introduction

This chapter presents an analysis of the data collected in the present research study and presents the findings. The purpose of this study was to examine the perceptions of school library media specialists toward 21st century literacies, including the identification of skills necessary to be considered 21st century literate, the SLMSs' perception of teaching methods that cultivate 21st century literacies, and the SLMSs' incorporation of these 21st century literacies into the curriculum.

Using a Delphi procedure, the researcher administered an open-ended survey to SLMSs located in the state of Georgia. Clear themes, shared by a majority of the SLMSs as being deemed important by them, emerged. Specifically, the researcher attempted to gain insight and understanding in answering the following questions:

1. As a(n) SLMS, what does it mean to be 21st century literate? Include skills necessary for success.
2. As a(n) SLMS, identify the top five tools you believe are necessary for a student to be considered 21st century literate.

Study Design

A two-phase design was applied to the research study to accomplish the purpose and goals of the study. Prior to the construction of the first round, 21st century literacies, skills, and tools were identified by the researcher. These components were based on theoretical and applied findings described in the literature review. They served as a guide for what types of questions to include on the instrument. The researcher constructed a prompt that asked SLMSs to define what

it means to be 21st century literate, including skills necessary for success in terms of the standards and expectations for media programs. The query was also designed to explore their attitudes and perceptions of 21st century literacy. Next, a thematic organization was applied to the narrative responses. These responses were categorized into thematic groups relating to the part of the question to which they were responding.

Before distributing the first query, an expert review of the project was conducted. The review process included suggestions by the committee members of the research project and a review conducted by the University Institutional Review Board (IRB). The approval process for the IRB included the submission of a proposal narrative with the following required elements: personnel involved, purpose of the study, projected outcome of the project, a description of the subjects, the research methodology or procedures, and the risks involved. A timeline of approval and participation activity is shown in Figure 1.

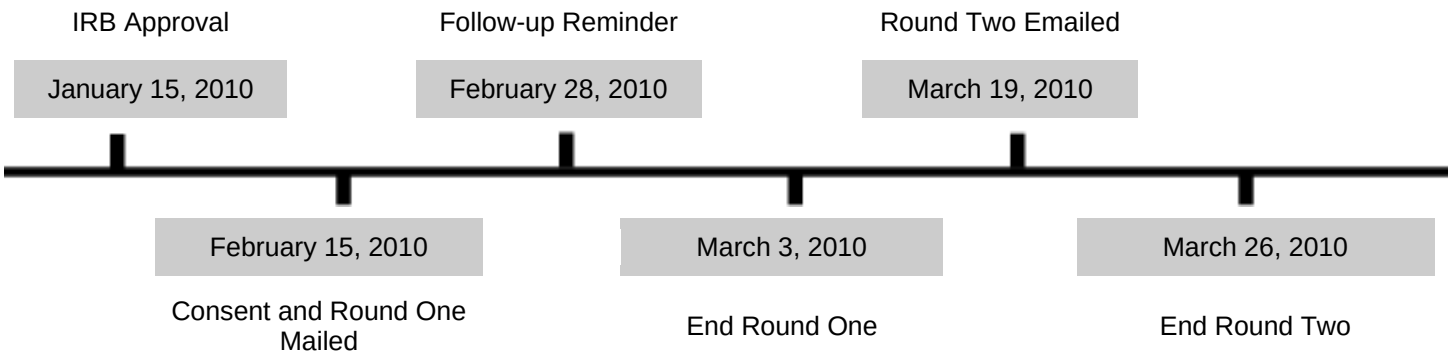

Figure 1. Delphi study timeline

After construction of the first query, the principal investigator contacted a total of 78 individuals. Thirty-two were considered to be frequent participants in professional discussions via school library media listservs. Also, forty-six recipients of the Georgia Department of

Education 2010 Exemplary Library Media Program were asked to voluntarily participate in the study. Twenty individuals responded affirmatively.

Both rounds of the Delphi study were conducted with participating school library media specialists (who served in the role as experts), in various locations throughout the state of Georgia. The examination and analysis of the data are presented in this chapter. To address the purpose of the study and to answer the research questions which guided the present research, this chapter will be organized into the following sections: description and results of Round One, description and results of Round Two, examination and analysis of the findings, and chapter summary.

Round One

The first round of the survey was administered via postal mail. Postal mail was chosen for several reasons. First, the timing of the first round occurred just prior to a week long winter break which included an extra day because of inclement weather in many parts of the state. An email may have gotten "lost" in the large amounts of messages incurred during multiple days of inactivity. Secondly, the researcher considered the fact that a personal form of communication would be more likely to elicit sincere responses.

Twenty SLMSs were identified to participate in Round One of the study. Out of this population, eight SLMSs were from elementary schools, and twelve were from secondary schools. These twenty respondents represent 17% of the total number of SLMSs initially contacted. Of the twenty SLMSs who participated in Round One, nineteen participated in Round Two, representing 95% of the total number of possible SLMS participants.

The first query asked for SLMSs to disclose specific demographic information. This information was requested in order to identify any correlations to the research data.

The Round One participants, four males and sixteen females (see Table 1), were certified, full-time employees at K-12 public schools in the state of Georgia. There were nine participants representing high school, three from middle schools, and eight from elementary schools.

Table 1

Participant Demographics

Participants	Elementary School	Middle School	High School
Female	7	2	7
Male	1	1	2

The first query also asked participants to make a statement from the following request: "From your position and experience as a school library media specialist, define what it means to be considered 21 century literate. In your definition please include any skills you consider to be important."

Using frequently recurring keywords from each participant, the researcher divided the responses into two categories: a) tools and skills necessary to be 21st century literate; b) and, an overall definition of what it means to be 21st century literate.

In the tools category, the following responses were identified as being essential in defining an individual as being 21st century literate: print resources, Internet/computer access, electronic formats, visual resources, audio resources, and social networking (see Table 2). As evidenced by the number of responses, educators still consider print format as a foundational skill for learning, personal growth, and enjoyment. Other keywords mentioned once included

digital cameras, responders, texting, Kindle, interviewing, reading, comprehending, and search engine.

Table 2

Narrative Responses for Tools - Round One Survey

Tools	
Print resources	7 responses
Internet/computer access	5 responses
Electronic formats	5 responses
Visual resources	4 responses
Audio resources	3 responses
Social networking	3 responses
Blogs/wikis	2 responses

In the skills category, the following phrases were identified as significant: to evaluate information, to find information, to analyze information, to use a variety of technologies, to use resources in an ethical and responsible way, and to collaborate with others (see Table 3). Other keywords and phrases used once to describe the skills necessary to be 21st century literate included: to create new knowledge, to synthesize information, to integrate information, and to comfortably use new technologies.

Table 3

Narrative Responses for Skills - Round One Survey

Skills	
To evaluate information	7 responses
To find information	3 responses
To analyze information	4 responses
To use a variety of technologies	4 responses
To collaborate with others	3 responses
To use information in an ethical and responsible way	3 responses

In describing what it means to be 21st century literate participants used phrases like "it is the ability to determine the validity of the information being presented" (Participant 8, personal communication, March 2010), "it is more than just using a computer" (Participant 3, personal communication, March 2010) "it means to grow and function in a high-tech world" (Participant 11, personal communication, March 2010) and, "it means using information discrimination."

The participants' responses from Round One of this Delphi study were used to form major categories in reference to the question. The researcher took a combination of keywords and phrases from these responses to create a collective snapshot of the definition of what it means to be 21st century literate: "To be 21st century literate means using a variety of technologies to access information; being comfortable in using digital tools; using critical thinking skills; and, using information discrimination."

The researcher conducted a member check for an additional evaluative component of the study. Two participating SLMSs involved in the study and three teachers not involved with the

study were presented with the definition derived from the responses from Round One. They were asked to carefully consider the definition in terms of their own interpretation and the interpretation of others. The individuals of this member check group confirmed that the definition was clear and "easy to understand." Interestingly, the teachers in this check group expressed enthusiasm that the topic was being addressed.

Round Two

For the second and final phase, SLMSs were given a survey containing sample responses from the skills category that were the most common and therefore stated more frequently in Round One. The second round was constructed incorporating the most frequently-cited responses from the first round of the survey. Each participant was asked to complete two tasks: (a) rate each skill item in importance on a scale of 1-5 with 1 being most important; (b) provide a brief statement regarding tools and perceptions of the school library media program in the state of Georgia.

Since the Delphi technique develops consensus by determining the aggregate tally of numbered responses from participants, emerging themes were noted and assessed. The responses SLMSs gave in Round One formed the categories for Round Two. The most frequently-cited responses from Round One were given back to the participants in a rank-order checklist for Round Two (see Table 4). Sometimes a response was chosen the most frequently by all the SLMSs but may not have been their top choice. It is therefore important to note that achieving a consensus is not the same as achieving a majority. This was true in the group's response for the skill of evaluating information.

It is important to note that 20 SLMSs responded and participated in Round One. In Round Two, 19 of those 20 replied.

When participants ranked the most frequently occurring skills an individual needs to be considered 21st century literate, finding information was listed as most important. This ranking is not surprising, since *Information Power: Guidelines for School Library Media Programs* (AASL & AECT, 1988), identifies the first role of the library media specialist as that of an information specialist in providing appropriate resources.

Table 4

Ranked Responses for Skills - Round Two Survey

Ranked Responses for Skills - Round Two Survey		
Finding information	9 responses	18 of 19 total responses
Using information responsibly and ethically	7 responses	18 of 19 total responses
Analyze information	7 responses	18 of 19 total responses
Collaborate with others and share information	5 responses	17 of 19 total responses
Use a variety of technologies	7 responses	14 of 19 total responses
Evaluate information*	19 of 19 total responses	

*Out of the 20 participants who responded to Round One, 19 responded to Round Two. This response was answered by all 19 participants although it did not rank in the top 1-5 choices.

The skill of evaluating information was the *only* item that all participants ranked. The cumulative rankings for this category were not consistent in reaching a majority; however, a key advantage of the Delphi method allows for participants to reach a consensus rather than a majority. Additionally, in 13 responses of Round Two's discussion portion, evaluating information was listed as very important.

The skill, using information responsibly and ethically, was ranked as second. This was also cited 15 times in the discussion of the SLMSs' evaluation of the school library media programs in the

state of Georgia. The skill, analyzing information, was selected and tied for the third and fourth rank in importance as noted by the participants. SLMSs noted that analyzing information is the ability to break down information into component parts. There was a clear difference in analyzing information and evaluating information. Evaluating information was often referred to by the responders as the validity and creditability of a source. Collaborating with others and sharing information was chosen for the fourth positions tied with the same number of responses of analyzing information. Both these skills are listed in AASL's *Standards for the 21st Century Learner* (2007). Using a variety of technologies was ranked by the participants as the fifth skill necessary to be literate in the 21st century. Today's students need to develop information skills that will enable them to use technology as an important tool for learning both now and in the future (AASL, 2009). In the second part of Round Two, the participants were asked to consider the top four tools most often listed in Round One that are necessary to remain 21st century literate: blogs, printed text, video sharing, and wikis. With those tools in mind, SLMSs were asked to respond to the following statement: "As a 21st century school library media specialist in the state of Georgia, I believe the media program is…" The results are presented in the following section.

Thematic Organization and Grouping

Most often listed as a perception was that the media program is important to the school community. It was described as "the hub," "the key player," and "essential" to the success of the school. This perception was the basis of six of the open-ended responses. The following comments were taken directly from these written discussions: The media program is …

Essential in helping to raise test scores

Essential in training students

Essential in keeping up with technology

Essential in teaching tasks

Essential in supporting the curriculum

Essential in maintaining a high quality collection of materials

Essential in organizing and promoting literacy projects

Essential in becoming the learning commons where discourse is safe and students can learn to challenge, question, and investigate (Participant 2, personal communication, March 2010).

Within the overall theme of importance, three other subcategories emerged. These subcategories were listed as: to manage information, to collaborate with others, and to validate the role of the media specialist (see Figure 2).

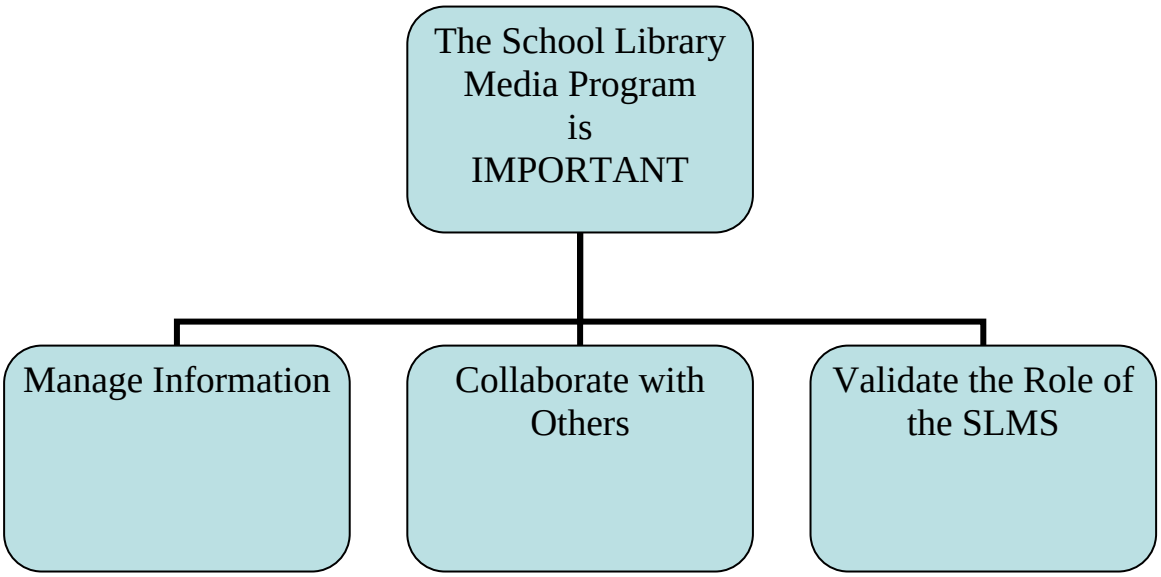

Figure 2: School library media program importance

Managing Information - The subgroup of managing information presents itself in three distinct categories directly related to the skills portion of Round Two. In their discussion of the

school library media program in the state of Georgia, the participants reiterated that finding information, analyzing information, and evaluating information were crucial to the school community. As one responder indicated, "As part of that team [21st Century School Team], and as a media specialist I am responsible to teach lessons that incorporate not only technology skills, but also how to access, evaluate, and analyze information" (Participant 8, personal communication, March 2010). Another participant indicated, "I believe the media program is vitally important to locating and evaluating appropriate information" (Participant 2, personal communication, March 2010).

There is an abundance of information available using a variety of technologies, and it is imperative for educational purposes to be able to discern the appropriateness of information. "By connecting students with quality information and solid research skills and the ability to express new thoughts and ideas, we are preparing them to become valuable 21st century citizens" (Participant 11, personal communication, March 2010).

Collaborate with Others – Whether the SLMS is collaborating with a teacher to create a lesson or collaborating with colleagues to share best practices, collaboration is important. Collaboration was discussed as a topic of importance in 11 of 20 Round One responses. In Round Two, collaboration was referenced 8 of 19 times. The traditional and most common definition of collaboration is working with other faculty to help meet state and school curricular standards (Kaplan, 2007). In this 21st century of social responsibility, collaboration takes on an added meaning in that "students are taught to recognize the importance of information in a democratic society, practice ethical behavior in regard to information and technology, and to share information and collaborate in its use in groups" (Lance, Rodney, & Schwartz, 2010, p. 15). Participants in this research study affirmed that, "The media specialist has a distinct skill set

that, through collaborative practices with other teachers, can help bring 21st century literacy skills to each student and teacher in the school building" (Participant 18, personal communication, March 2010). Collaborating and planning with classroom teachers, technology teachers and technology specialists is critical in assuring that the media specialist is viewed as part of the school community. According to one responder,

> As a 21st century school library media specialist in the state of Georgia, I believe the media program is a key player in working collaboratively with the classroom teachers to impart the skills necessary to make today's students 21st century literate. It would be very easy to work hand-in-hand with teachers to send groups to the media center to be shown how to find information; how to evaluate and analyze the information; how to use it ethically and responsibly; and finally, how to share the information that has been retrieved via a technology, such as a blog, wiki, or other form of social media (Participant 4, personal communication, March 2010).

Validate the Role of the SLMS – Within the discussion of rote responses for the importance of the school library media program, six participants expressed concern for their lack of authority, lack of resources, and overwhelming tasks. Those responses are listed below:

- In my own school system, few teachers have override passwords to enable them to access blocked educational materials quickly. Blogs, most wikis (including Wikipedia), and many other teaching tools are inaccessible or only accessible through much effort. Decisions on which sites to block are made by the filtering company and by the technology department—not teachers (Participant 19, personal communication, March 2010).

- As a 21st century school library media specialist in the state of Georgia, I believe the media program is falling behind. We are not permitted to use the latest technologies in our schools. Input from the end users is not sought out when making technological decisions (Participant 7, personal communication, March 2010).
- Funding for our local systems' media program and technology are sorely inadequate. In a time when we should increase funding to develop students capable of navigating the digital world, our state has cut funding to the media program, our county has reduced the number of media specialists in our schools, and our county has allowed school principals to siphon money which should be spent on media related objectives (Participant 9, personal communication, March 2010).
- As a 21st century school library media specialist in the state of Georgia, I believe the media program is very slow to progress towards the listed tools that are considered important to remain literate in the 21st century. The primary reason is monetary. Many of the tools require a larger band width that is a costly investment by a county. The tools also require constant purchasing and updating of computers so that the implementation of the programs is efficient (Participant 3, personal communication, March 2010).
- Finding time to meet with the teachers is harder to find because of furlough days (which usually translates into no planning days). [In] the next ten years, I will probably see my physical collection fade away. So in the future, my job will be more and more going to the classroom (instead of them coming to me), and

answering teacher/student questions online. I will still be matching student with book but doing it less face to face. I will still be helping with research but more in a virtual reference desk way. In the future, I may work from home, but I hope that it doesn't come to that. A smile is very hard to translate into Times New Roman, even with emoticons (Participant 12, personal communication, March 2010).

- We are receiving mixed messages at my educational institution. We are tasked with educating our students in media literacy and then handicapped in doing so by overly restrictive policies and limited financial investment. We are also disadvantaged in our ability to produce media literate individuals by school officials who fear litigation and other ills will come about as a result of our efforts to encourage responsible and literate use of technology. The actions of local school authorities betray a bias toward avoidance of controversy at the cost of a more meaningful student learning experience (Participant 14, personal communication, March 2010).

Summary of Delphi Study

Qualitative research has been validated and proven to be a reliable method of study that can help change the world in positive ways (Denzin & Lincoln, 2003). Qualitative data collection and analysis was utilized because it provided the opportunity to understand participants' perceptions within their own individual environments regarding 21st century literacy. Studying SLMSs who are currently working in public schools provided the clearest picture of the reality that is present in schools today. The goal of this qualitative analysis was to obtain a glimpse of day-to-day experiences from the participants' point of view. The narratives they provided

allowed the researcher to obtain and share a first-hand account of the attitudes and perceptions of a 21st century SLMS.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

Introduction

The preceding chapters of this dissertation presented questions for the study (Chapter 1), a review of the literature pertinent to this study (Chapter 2), methods and procedures used in this study (Chapter 3), and an analysis of the data and results of the study (Chapter 4). This chapter (Chapter 5) summarizes the findings of the perceptions and attitudes of SLMSs toward 21st century literacies. Conclusions, implications for educators, and recommendations for further study are presented.

Due to the pervasiveness of technological innovations outside of the classroom, attention has turned to using those same innovations as tools used to develop skills required to become 21st century literate. The school library media specialist finds herself as a bridge between students, teachers, and those tools and skills. Callison (2008) noted that no more than a decade ago, the primary objective of school library media instruction was to acquaint students and teachers with the sources and functions of the local school library media center with a strong focus on accessing and using print materials. Research instruction to students stressed the use of print resources, and information and technology literacy centered on information searching via the Internet and specific databases. “Today, inquiry and information fluency is at the center of how knowledge is tested and created by students who explore multiple resources beyond the confines of the library media center” (Callison, 2008, p. 35).

Conceptual Framework

The conceptual framework that guided this study is rooted in the ideology of post-modernism. Post-modernism is a transformation of the game rules for science, art, and literature

since the end of the nineteenth century (Aylesworth, 2009, para. 15). The ideology of post-modernism situates itself well within the area of curriculum studies, which encompasses a broad range of integrated themes and encourages a conception of curriculum beyond present institutional constraints (Pinar, 2003). In a time when many educators feel they have lost control of the curriculum they teach (Pinar, 2004; Reynolds, 2003), the foundational issues of post-modernism state that this is and should be a normal progression. A post-modern curriculum may be viewed as moving towards an open system with constant flux and complex interactions; requiring interactive and holistic frameworks for learning, with students becoming knowledge-producers rather than knowledge-consumers (Macdonald, 2003). The transition from consumers to producers will take place as educators are encouraged and supported to include flexibility within the curriculum. William Reynolds states, "This tendency to control teachers through management techniques and to make them intelligent obedient workers helps to ensure that no type of alternative teaching gets accomplished" (2003, p. 12).

Within the technology-mixed, multi-dimensional face of the post-modern curriculum, opportunities must be provided for a comprehensive understanding of the curriculum field. The task of the next fifty years in the curriculum studies field is one of developing alternatives to the mode of thinking that has so clearly dominated our first fifty years (Pinar, 2004).

Adolescents in the 21st century maintain a lifestyle and mindset that enable them to access much of their learning outside the walls of the formal school building. Embedded within a large part of that learning is technology (Reedy, 2008). Most students cannot get through a regular day without the tools of technology they have always known. Sooner rather than later, these young individuals will be expected to become productive, knowledge-producing members of society incorporating many of the technologies they have been using all their lives (Leu, 2000;

Prensky, 2001; Reedy, 2008). According to Robinson, McKenna, and Wedman, "[F]or the first time in the modern era, teachers have an obligation to prepare children to become literate in ways in which the teachers themselves might not be fully literate" (2004, p. 274). Because the power of technology plays such an important role in adolescents' individual and social identities, schools advocating only school-sanctioned practices will not move students toward a post-modern society (Reynolds, 2003), the society that questions everything. Yet the brave new worlds of post-modern culture and society are of sufficient interest, importance, and novelty to justify taking chances, leaving the familiar behind, and trying out new ideas and approaches (Ozmon & Craver, 2003; Rorty, 2009).

When searching for information, students are moving beyond a controlled use of terms for searching an in-house resource collection toward understanding how terms are associated with slang, invention, and cultures, as well as how they are linked in multiple ways to electronic documents (Stripling, 2010). In addition, today's information-literate student searches among information sources of varied levels of value (Bomar, 2010; Lincoln, 2009). Print tools such as current encyclopedias and textbooks can provide a platform to help students understand what is accepted as common knowledge, conventional wisdom, and politically correct opinions. The shift to the use of electronic tools, more specifically, Web 2.0 tools, however, can provide an opportunity for students to question common knowledge as well as explore opinions, arguments, and studies reflecting expertise that may be considered insignificant (Gunawardena et al., 2009). The term collective intelligence, describes the phenomenon of "how groups of individuals can occasionally and under particular circumstances meld their thinking into a coherent whole" (J. B. Smith, 1994, p. 1). The learning objective is, therefore, not to determine truth, but to become

aware of the range and differences among mainstream, unpopular, and inventive thought (Bomar, 2010).

Study Design

The present study has undertaken the exploration of the perceptions of SLMSs regarding the tools and skills necessary to remain 21st century literate. Moreover, the researcher attempted to explore how SLMSs are presently using technology to achieve instructional goals. Specifically, the researcher sought answers to the following research questions:

4. What is your definition of 21st century literacies?
5. What are the skills and tools necessary to be considered 21st century literate?
6. How do you incorporate 21st century literacies into the curriculum?

To address the purpose of the study and to answer these questions, the researcher utilized a two-phase Delphi study research design. In the first phase of the study, the researcher asked participants to give their definition of what it means to be considered 21st century literate. A collective definition of the term, 21st century literate, was developed to achieve a consensus of the meaning. It is important to note that achieving a consensus is not the same as a majority. Additionally, the group definition sought to find commonly occurring terms regarding skills and tools as deemed important by the SLMS. The responses from Round One were compiled and summarized from all the participants, forming the content of the Round Two survey.

The most frequently cited responses from Round One were organized into a checklist of skills. Participants were asked to rank the items in order of importance on a 1-5 rating scale with 1 being the most important and 5 being the least important. The participants were then asked to provide feedback to an open-ended statement. This statement was intended to elicit a response from the SLMS regarding the future of school library media programs in the state of Georgia

with specific consideration toward blogs, wikis, and other social networking effects. The use of a Delphi model accomplished the goals of the research study by generating discussion and new ideas through compared experiences. It also explored the unique opinions and creative strategies of selected, practicing SLMSs.

Participants in this study, the experts of the Delphi panel, were practicing SLMSs in the state of Georgia. The Round One return rate of 26% (20 participants out of 78) is considered moderate given the fact that participants were full-time, practicing SLMSs who took the time to contribute during the spring semester, in between state-mandated standardized testing and the culminating end of the academic school year. Round Two was developed using the participants and their responses to the Round One prompt. A number of the SLMSs who participated in this study expressed their support for the goal of the current research as well as their interest in the final findings of the study. Therefore, the researcher of this study will send the interested participants a report of the study at its conclusion. Confidentiality of the participants will continue to be preserved.

Discussion

This Delphi study was designed to answer the following questions:

1. What is the definition of 21st century literacy as identified by SLMSs?
2. What is the perceived role of the SLMS in teaching methods and skills that cultivate 21st century literacies?
3. How do SLMSs incorporate 21st century literacies into the curriculum in an effort to bridge the gap of teaching and learning between educators and students?

These questions sparked passionate conversation among participants at a time in which the global economic downturn was paramount. The frustration of limited authority as noted by SLMSs was heightened by the fear of losing the longstanding position altogether.

The discussion of 21st century literacies as reported by the participants, included:

- Educator support of an expanded view of learning which welcomes change, responds to new media, and extends the classroom to connect with the larger society (Alvermann, 2002b)
- Educator frustration that the technology available is difficult to access and/or maintain expertise (Farkas, 2007).
- Educator concern about limited funding for purchasing, training (Nielsen et al., 2008), and maintaining current technologies.

The above results were not surprising to the principal investigator since it is recognized that SLMSs are continually challenged to seek out ways to make instruction meaningful for their students (ALA, 2006). Students' increased engagement in instruction caused by the appeal of technological resources is evidence enough to support a constant evaluation of best teaching practices. In addition, SLMSs want to foster collaboration with teachers to cultivate student achievement. The challenges of integrating 21st century literacies into the media program, according to the participants, are not surprising since these economic times have created an unprecedented reduction in funding (Farmer & Shontz, 2009) and decreased numbers of certified personnel serving in building level media positions.

The Delphi study panel perceived the following skills to be the most important:

- Finding information
- Analyzing information

- Using information responsibly and ethically
- Collaborating with others and sharing information
- Using a variety of technologies

The findings of the present study suggest Georgia SLMSs are aware of the efforts and agree with the concepts and guidelines emphasized by *Standards for the 21st Century Learner* (2007), the, *National Education Technology Standards* (NETS*) (International Society for Technology in Education, 2007, 2008),* and *Partnership for 21st Century Skills (2009).*

Finding Information – Learners use skills, resources, and tools to inquire, think critically, and gain knowledge (AASL, 2007). Companion research (Callison, 2009) indicates that students participating in the information search process can often make high proportions of nonspecific comments about various phases of the process but offer little or no supporting information and often reflected fragmented understanding of what they found.

Analyzing Information- Analyzing information was distinguished by the participants as different from evaluating information in that analyzing information occurs when the learner breaks apart the whole into smaller, understandable components. To make sense of the information, learners need guidance in the ability to draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge (AASL, 2007).

Using Information Responsibly and Ethically – The finding that the importance of teaching students to use information responsibly and ethically correlates with a Common Belief statement written by AASL (2007). Specifically, it states, "Ethical behavior in the use of information must be taught. In this increasingly global world of information, students must be taught to seek diverse perspectives, gather and use information ethically, and use social tools responsibly and safely" (p.2).

Collaborating with Others and Sharing Information – There is evidence of successful collaborations between teachers and SLMSs (Eastman & McGrath, 2006; Estes & Brady, 2005; M. J. Johnson, 2005). Todd (2008) found that SLMSs use the word collaboration when they really want teachers and administrators to recognize the librarian's skills and resources. Respect for the position is important (Lance, 2005; Lance et al., 2000, 2001, 2005)

Using a Variety of Technologies – Case studies indicate that teachers and SLMSs use their own time to learn about digital technologies (Harada & Hughes-Hassell, 2007). Many SLMSs have become hyper-focused on the integration of technology tools and skills, specifically the ability to effectively use technology to access and transform information as a part of an information literacy skills set (Bomar, 2010).

Evaluation of Information - One skill that was ranked by every SLMS participant was evaluating information. Although this skill was not ranked as number one, it was the *only* item that reached total consensus of the group. Callison (2008) states that validating information is at the core of teaching information inquiry to students. SLMSs affirm the increasing ways to access the web and social networking sites make information appear to be legitimate and authoritative. Callison (2009) further illustrates the importance of teaching evaluation skills when he suggests, "Teach students to respond to signals and doubts that occur as they read. Also, provide examples of specific situations that often involve misinformation, such as fake Web sites" (2009, p. 4). Students need direction to know the questions to ask and what to examine in the evaluation process, but a plug-and-chug checklist encourages a check-the-box mentality toward evaluation, rather than critical thinking (Bomar, 2010).

Significance of Study

The importance for analyzing the perspectives of SLMSs in developing 21st century skills is informative to the present and future environment of a school library media center. The outcomes and perspectives of this research may contribute to the SLMSs in understanding and using new technologies and skills. A benefit of this study will be its impact on the participants and the audiences they serve. The selected participants were members of several social networking groups and listservs related to the profession of SLMSs. These discussion boards and listservs are accessed by many of their peers on a daily basis and could provide a catalyst for conversation among the participants. While there is a great deal of current research about technology and informal ways of using this technology, there is less research with regard to the specific opinions, practices, perceptions, and implementation of 21st century literacy skills from the perspective of the SLMS. Conducting research of 21st century literacies as perceived by SLMSs, would encourage SLMSs to become or to continue to be agents of change, especially as that change applies to the curriculum via technology.

Limitations of Study

As with any research study there are limitations. Several possible limitations for this study included:

- Participants may not be completely honest in their answers to the questionnaire or interview. The participants may verbally embellish scenarios as relayed to the researcher. The researcher must assume that questions and discussions with the participants are true.
- The sampling for this study was small; therefore, it cannot be assumed that outcomes can be generalized and applied to all school library media specialists.

- The timeframe for the study was short term. A longer period of research may produce a change in methods and/or a broader view of the future of this topic.
- Participation was limited to the state of Georgia.

Conclusions

The results of this study demonstrate the enthusiasm and support that SLMSs have toward their school library media program. Participants in this study consider themselves and their media program to be a crucial part of the school community. A re-examination of access toward online content and Web 2.0 tools are issues which SLMSs consider to be important factors in moving forward in the 21st century. SLMSs expressed their concerns regarding the lack of time they presently have to collaborate and use technology with teachers and students. They fear that the present state of the economy coupled with the attitudes of administrators will continue to encourage a decline in the quality of librarianship.

The results of this study corroborate SLMSs perceptions and instructional needs for maintaining a successful school library media program (Meyer, 2010). This study provides a cautionary outlook on the future of properly integrating 21st century literacies into the curriculum and the media program itself. One SLMS remarked, "…in the next ten years, I will probably see my physical collection fade away" (Participant 12, March 2010).

The SLMSs participating in this study were regarded by the researcher as professionals in the field of school library media. The educational background required to be employed in the position of school library media is rigorous (University of West Georgia, 2008). Participants' willingness to take part in an activity which requires one to expose their personal ideas and opinions shows dedication to the profession. In addition, the researcher was confident that participants could view their media program objectively and assess how 21st century literacies

are being used to benefit student achievement. While some of their answers were rote, automatic responses, many personal reflections were sprinkled throughout their comments. As an added advantage, these SLMSs could offer insight regarding their exchanges with students about influences that exist ubiquitously outside the walls of the school media center.

As previously mentioned, time, or the lack of it, presented an obstacle for the participants. In an effective media program, time is provided with teachers, students, and peers. Because of the emphasis on increasing student scores on standardized tests and forced reduction of days in the school year, classroom teachers feel they cannot allow time for planning with the SLMS. Without the support of the classroom teacher, the SLMS found it difficult to meet the instructional needs of the student.

Can these challenges be solved through simply providing more time and money? The lack of time creates obstacles in overcoming these challenges, and the lack of funding is devastating. How can SLMSs truly give students and teachers the highest quality of instruction if they are not given adequate time, proper tools, necessary power, space for self-discovery, and collaborative opportunities for shared learning and teaching with other professionals? The results of this research study suggest that technology has not been completely integrated into schools or implemented into the curriculum. Due to the lack of both time and money, technology is still viewed and treated as a privilege. Limitations such as the lack of time, money, and control hampered SLMSs' abilities to include more technology in their lessons and affected their views and perspectives regarding technology inclusion in the 21st century curriculum.

The majority of SLMSs recognized the power of newer technologies to motivate and engage students (Afram, 2006). They also found it troubling that restrictions, blocks, and firewalls prevented them from integrating those skills and tools into a 21st century literate

curriculum (Considine, Horton, & Moorman, 2009; Davis, 2009; Reedy, 2008). Students are already learning with technology in their own pastimes and hobbies, through videogames and devices they use personally as a way to obtain and negotiate the information they receive (Selwyn, Potter, & Cranmer, 2009). The SLMSs in this study responded that student engagement is high when technological aspects are included in the classroom. For this generation of students who never knew life without the Internet's existence, it is little wonder that they show disinterest in classrooms because of having to "power down" (Prensky, 2005). There is no doubt that student ease, comfort, and familiarity with technology is high as their world has always included computers, the Internet, and many technological gadgets that did not exist for previous generations (Prensky, 2005, 2005/2006).

Leander (2007) argues that in order to understand technology and schooling, and the acceptance of technology within schools, one must consider "the production and organization of school space and time" (p. 26). He further contends that the challenge of bringing technology into schools is not technical, with the provision of hardware and software, but spatial and temporal. Items like the blackboard and the overhead projector (which directs student attention to a common area), and copiers encourage a common activity shared by all the members of the class. Activities on individual monitors or screens do not match this type of desired productivity. Even learning management systems such as Blackboard (2008) simply make use of teacher control online, and do not encourage individual participation like the web-based tools students use to create videos or music compilations. Therefore, SLMSs have an important and ethical duty to teach to the abilities their students have. In today's classroom, this includes incorporating more technological aspects and components into everyday instruction with the support of administration. It must be realized that technology, especially the computer, is now an integral

part of life (Lance et al., 2000). In the arena of education, the traditional tools of chalkboards and overheads with pens must make room for 21st century literacy tools and skills. Much of today's curriculum is reflective of the social and cultural influences that stem from society's embracing of postmodern thought (Bybee & Overbeck, 2001).

In 2009, AASL issued the companion document to its *Standards for the 21st Century Learner* (2007). *Empowering Learners: Guidelines for School Library Media Programs* (AASL, 2009) replaces the 1998 *Information Power* guidelines and was in preparation for over two years before its release. For fifty years and numerous editions of standards and guidelines, SLMSs have been constructing and reconstructing roles that would place them at the heart of teaching and learning in the school. These professional guidelines attempt to clarify, predict, and outline roles that can be carried out for years to come. The school library media program depends on the foundational ideas stated in *Empowering Learners* (2009). Advocates must promote those ideas if the profession is to survive. Joyce Valenza blogs, "If nothing is done right away, we are going to look back and be mightily sorry that we allowed libraries to disappear form our children's learning experiences" (2010, para. 2). The first initiative is the awareness that every SLMS must acknowledge regarding the vast change in technology. Technology evolution must be accepted if professionals are going to remain relevant. *Empowering Learners* (2007) states that the focus on technology should not be the fascination with systems, tools, and networks, but with the idea that SLMSs must be experts in maximizing quality teaching and excellence in learning by developing the capabilities and opportunities technology tools provide. The second major concept is that collaboration with classroom teachers is paramount in affecting student achievement. David Loertscher (2009) elaborates,

> No bird units, please. No quick library lessons taught in isolation of the classroom. No separate curriculum of just information literacy/research skills. No more teaching the location of information to a class and then sending them back to the classroom to complete their assignments and projects. Concentrating only on the joy of reading and research skills is not the point of view here (2009, para. 1).

Literacy plays an expanded role in the process of inquiry from the planning all the way through the assessment. The SLMS quickly comes to realize that daily routines are not the routines of collection organization, maintenance, and circulation. The guidelines recognize that the virtual collection goes beyond the print collection in demanding service to teachers and learners twenty four hours a day, seven days a week, 365 days a year. *Empowering Learners* (2007) suggests an urgency to pursue change within the profession if it is to survive. This study suggests ideas for building level SLMSs to consider in the ongoing pursuit to remain in the position as a primary player in the school community. First, SLMSs must be knowledgeable of the current events having a direct impact on the school library media program. How many SLMSs know that *Empowering Learners* (2007) has replaced *Information Power* (1998) as the exemplary model for school library media programs? Can the media specialist define 21st century literacies? Second, SLMSs must follow the standards and guidelines as written by professional school library media organizations. When the guidelines and standards suggest dramatic instructional changes to the media program, then they must be implemented.

In meeting the teaching realities of 21st century literacies, the SLMS participants recognized that merely using newer technologies is not effective unless that use is paired with practicing critical thinking skills such as analyzing, synthesizing, and using information

responsibly and ethically. History has recorded that the challenge of improving student achievement and transforming education through technology is an on-going challenge (Cuban, 1986).

The panel of experts in this study expressed the sentiment that *how* technology and those skills and tools necessary to make it work are important considerations in determining effect and outcome on student achievement. Technology has the potential to be used as a tool of inquiry and to advance academic and disciplinary knowledge, as it also has the potential of reproducing the status quo for marginalized and working-class students.

Recommendations

The results of this research study have presented the perceptions of a select panel of experts (SLMSs) vis-à-vis the use of skills and tools necessary to be 21st century literate. SLMSs value their role in contributing to the overall curriculum; they know that literacy has multiple meanings; 21st century technological skills and tools must be taught and practiced in order to support and enhance traditional lessons; and they are frustrated about the restrictions in place for newer technologies that hinder instruction. Based on these results, then, the following recommendations are suggested for further study:

1. A replication of this Delphi study is recommended to be conducted with a larger and more diverse population, in more regions of the country. Since the number of participants offered a limited look into SLMSs' experiences, it would be helpful to obtain more SLMSs who would contribute to the study.
2. Further research needs to be conducted on how learners construct or co-construct knowledge through technology. An understanding of a broader base of technology usage and how it affects, alters, and enhances cognitive development would add

deeper dimensions to instructional programs as well as to the methodology of SLMSs.

3. More research focusing on true technology integration and its effectiveness could be assessed involving administrators and teachers who are allowed and encouraged to incorporate technological devices into the curriculum.
4. Further research should focus on local school authorities who limit and restrict the use of technology and the impact of these limits on student learning.

It is hoped that this research will contribute to the research on those skills and tools necessary to be 21st century literate and how technology integration into the curriculum can be achieved.

Based on the results of the present research study, it can be concluded that SLMSs are familiar with the standards, requirements, and best practices to effectively run a school library media program, but they are concerned that a lack of resources (primarily funding) and a lack of authority are quickly compromising their role in the school community. In this capacity, students who are without a dedicated guide, end up, in the words of professor Henry Jenkins, as ‘feral children of the Internet raised by the Web 2.0 wolves’ (Moran, 2010).

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APPENDICES

APPENDIX A

IRB APPROVAL LETTER

Georgia Southern University
Office of Research Services & Sponsored Programs

Institutional Review Board (IRB)

Phone: 912-478-0843
Veazey Hall 2021
P.O. Box 8005
Fax: 912-478-0719 IRB@GeorgiaSouthern.edu Statesboro, GA 30460

To: Rebecca W. Warren
175 Burkwood Court
Fayetteville, GA 30215

CC: Charles E. Patterson
Associate Vice President for Research

From: Office of Research Services and Sponsored Programs
Administrative Support Office for Research Oversight Committees
(IACUC/IBC/IRB)

Date: January 27, 2010

Subject: Status of Application for Approval to Utilize Human Subjects in Research

After a review of your proposed research project numbered **H10168** and titled "**A Delphi Study Analyzing Perspectives of School Library Media Specialists' Attitudes Toward 21st Century Skills**", it appears that (1) the research subjects are at minimal risk, (2) appropriate safeguards are planned, and (3) the research activities involve only procedures which are allowable. **You have been given approval to enroll 50 subjects.**

Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that the Institutional Review Board has approved your proposed research.

This IRB approval is in effect for one year from the date of this letter. If at the end of that time, there have been no changes to the research protocol; you may request an extension of the approval period for an additional year. In the interim, please provide the IRB with any information concerning any significant adverse event, **whether or not it is believed to be related to the study**, within five working days of the event. In addition, if a change or modification of the approved methodology becomes necessary, you must notify the IRB Coordinator **prior** to initiating any such changes or modifications. At that time, an amended application for IRB approval may be submitted. Upon completion of your data collection, you are required to complete a *Research Study Termination* form to notify the IRB Coordinator, so your file may be closed.

Sincerely,

Eleanor Haynes
Compliance Officer

APPENDIX B

IRB APPLICATION

Research Compliance Combined Cover Page
Georgia Southern University

Application for Research Approval

Investigator Information:		
Name of Principal Investigator: Rebecca W. Warren	Email: Rwarren586@bellsouth.net	**For Office Use Only:** Protocol ID: _____ Date Received:
Phone: 678-362-5278 cell; 770-461-7314 home	Address: 175 Burkwood Court Fayetteville, GA 30215	
Department: Curriculum, Foundations, and Reading (Curriculum Studies)		
Name(s) of Co-Investigators: N/A	Title of Co-Investigator(s): N/A	
Personnel and/or Institutions Outside of Georgia Southern University involved in this research (Attach training certification): N/A		

Project Information: (Note: funded project titles must match grant title)
Title***: A Delphi Study Analyzing Perspectives of School Library Media Specialists' Attitudes Toward 21st Century Literacies***
Brief (less than 50 words) Project Summary: My purpose is to examine the perceptions of school library media specialists (SLMS) toward 21st century literacies, including the identification of skills necessary to be 21st century literate, the SLMSs' teaching methods that cultivate 21st century literacies and the SLMSs' incorporation of these 21st century skills into the curriculum.

Compliance Information:	
Please indicate which of the following will be used in your research: (application may be submitted simultaneously)	
☒ **Human Subjects (Complete *Section A: Human Subjects* below)** ☐ Care and Use of Vertebrate Animals (Complete *Section B: Care and Use of Vertebrate Animals* below) ☐ Biohazards (Complete *Section C: Biohazards* below)	
Project Start Date: 02/01/2010 End Date: 04/11-2010 (no more than 1 year) Anticipated renewals ☐ year 2 ☐ year 3	Check one: ☒Student ☐Faculty/Staff
Funding Source: ☐ Federal ☐ State ☐ Internal GSU ☒ Self funded	Funding Agency: ☒ Not Applicable

Section A: Human Subjects ☐ Not Applicable	
Number of Subjects (Maximum) 50	Date of IRB education completion:12/30/2009 **(attach copy of completion certificate)**
Purpose of Research:	*Please indicate if the following are included in the study***:**

☒ For use in thesis/dissertation ☐ Completion of a class project ☐ Publication (journal, book, etc.) ☐ Poster/presentation to a scientific audience ☐ Results will **not** be published ☐ Other	☒ Informed Consent Document ☐ Greater than minimal risk ☐ Research Involving Minors ☐ Deception ☒ Generalizable knowledge (results are intended to be published) ☒ Survey Research ☐ At Risk Populations (prisoners, children, pregnant women, etc) ☐ Video or Audio Tapes ☐ Medical Procedures, including exercise, administering drugs/dietary supplements, and other procedures

Section B: Care and Use of Vertebrate Animals ☒ Not Applicable	
Purpose of use/care of animals:	*Please indicate if the following are included in the study***:**
☐ Research ☐ Teaching ☐ Demo only ☐ Student participation in faculty work ☐ Class Project ☐ Exhibition ☐ Display	☐ Physical intervention with vertebrate animals ☐ Housing of vertebrate animals ☐ Euthanasia of vertebrate animals ☐ Use of sedation, analgesia, or anesthesia ☐ Surgery ☐ Farm animals for biomedical research (e.g., diseases, organs, etc.) ☐ Farm animals for agricultural research (e.g., food/fiber production, etc.) ☐ Observation of vertebrate animals in their natural setting

Section C: Biological Research ☒ Not Applicable ☐ Submitted Separately	
Biosafety Level:	*Please indicate if the following are included in the study***:**
☐ Exempt ☐ BSL 1 ☐ BSL 2 ☐ BSL 3	☐ Use of rDNA ☐ Non native/invasive plant species ☐ Last EHS lab safety inspection date: _Attach Report_____ ☐ Last IBC biosafety lab inspection date: __Attach Report_____

Signature of Applicant(s): (PI, CoPI)	Date: 01/11/2010
x Rebecca W. Warren	
If student project please complete research advisor's information below *(note that advisor signature must be received before application will be reviewed.):*	
Research Advisor's Name: Dr. Judith Repman	Advisor's E-mail: jrepman@georgiasouthern.edu
Advisor's Phone: 912/478-5394	Advisor's Department: Leadership, Technology, & Human Development P.O. Box: 08131
If student project - Signature of faculty member who is responsible for the student conducting research. If faculty project – Signature of department head or chair.	
By signing this cover page I acknowledge that I have reviewed and approved this protocol for scientific merit, rational and significance. I further acknowledge that I approve the ethical basis for the study.	
Signature of Committee Chair/Research Advisor (if student) Department Chair(if faculty):	Date:
X	

Please submit this protocol to the Georgia Southern University Research Compliance Office, c/o The Office of Research Services & Sponsored Programs, P.O. Box 8005. The application should contain all required documents specific to the committee to which you are applying. Questions or comments can be directed to (912)478-5465 or IRB@georgiasouthern.edu Fax 912-478-0719.

For optional email submission: Save the application forms to your computer. Complete the forms and name them beginning with your last name and first initial. Email the entire submission package to IRB@georgiasouthern.edu in a single email. Original signature pages may follow by mail or fax. (Signatures located on cover page, certification of investigator responsibilities and last page of application where certifications required.)

This is a proposal narrative for Rebecca Warren's proposed research study titled "A Delphi Study Analyzing Perspectives of School Library Media Specialists' Attitudes Toward 21st Century Literacies."

Personnel.

The principal researcher, Rebecca Warren, an Ed.D. student in the Curriculum, Foundations, and Reading Department, and her advisor Dr. Judith Repman, professor of Instructional Technology in the Leadership, Technology and Human Development Department, will have access to all confidential information regarding the identity of the participants and their schools. There will be three other committee members: Dr. Dorothy A. Battle, professor of Curriculum, Foundations, and Reading Department at Georgia Southern University; Dr. Elizabeth Downs, professor of Leadership, Technology, and Human Development at Georgia Southern University; and, Dr. Caren Town, professor of Literature and Philosophy Department at Georgia Southern University. The three committee members will not have access to any information that directly identifies the participants or their schools.

Purpose.

The purpose of this study is to examine the perceptions of school library media specialists (SLMSs) toward 21st century literacies, including the identification of skills necessary to be considered 21st century literate, the SLMSs' perception of teaching methods that cultivate 21st century literacies, and the SLMSs' incorporation of these 21st century literacies into the curriculum. The major focus for this study is an examination of the working knowledge, and application of 21st century skills as perceived by SLMSs with regard to student productivity. My hypothesis is that SLMSs have heard of skills necessary to be literate in the 21st century, but they are teaching and/or using a limited number of those skills with students. The research questions in this study will ask SLMSs to define 21st century literacy and to identify the skills necessary to be considered 21st century literate. As societal expectations for literacy change, and as the demands on literate functions in a society change, so too must definitions of literacy change to reflect this moving target (Lankshear & Knobel, 2003; Leu et al., 2004). The first query will ask participants:

- As a(n) SLMS, what does it mean to be 21st century literate?

The second question will relate to the skills or tools necessary to be considered 21st century literate. It is believed that the most important skills for educators to consider cluster around the Internet and allow students to develop the extensive ICTs that become available in an online, networked environment. In an information age, it becomes essential to prepare students for these new literacies because they are central to the use of information and the acquisition of knowledge (Chandler & Cortada, 2000). The second query will ask:

- As a(n) SLMS, identify the top five tools you believe are necessary for a student to be considered 21st century literate. Please support each identified tool with a brief description of how you incorporate the use of that tool in a lesson or general instruction.

The value of my research will contribute to the ongoing discussion of the perpetually evolving skills and technologies of this 21st century (Asselin & Doiron, 2008). In addition, my study can be used to extend the body of research concerning 21st century skills. A benefit of this study will be its impact on the participants and the audiences they serve. The selected participants most likely will be members of several social networking groups and listservs related to the profession of SLMSs. These discussion boards and listservs are accessed by many

of their peers on a daily basis and could provide a catalyst for conversation among the participants. While there is a great deal of current research about technology and informal ways of using this technology, there is less research with regard to the specific opinions, practices, perceptions, and implementation of 21st century literacies from the perspective of the SLMS. Conducting research of 21st century literacies as perceived by SLMSs, would encourage SLMSs to become or to continue to be agents of change, especially as that change applies to the curriculum via technology.

The conceptual framework that will guide this study is rooted in the ideology of post-modernism. According to Duane Macdonald in the *Journal of Curriculum Studies*, "A post-modern curriculum may be viewed as moving towards an open system with constant flux and complex interactions; requiring interactive and holistic framework for learning, with students becoming knowledge-producers rather than knowledge consumers" (2003, p. 143). Adolescents in the 21st century maintain a lifestyle and mindset that enables them to access much of their learning outside the walls of the formal school building. Embedded within a large part of that learning is technology. Most students cannot get through a regular day without the tools of technology they have always known. Sooner rather than later, these young individuals will be expected to become productive, knowledge-producing members of society incorporating many of the technologies they have been using all their lives (Prensky, 2001). According to Robinson, McKenna, and Wedman, "[F]or the first time in the modern era, teachers have an obligation to prepare children to become literate in ways in which the teachers themselves might not be fully literate" (2004, p. 274). Because the power of technology plays such an important role in adolescents' individual and social identities, schools advocating only school-sanctioned practices will not move students toward a post-modern society, the society that questions everything. A main thread of the philosophy of Foucault states, "…if conditions are to be changed, then they must be changed by human invention, and this will involve what is considered at the time to be true knowledge and how people define and exercise power as a result" (Ozmon & Craver, 2003, p. 342).

Describe your subjects.

The criteria to be used for selecting the participants for my study will be:

1. The participants must currently work as a SLMS.
2. The participants must currently work in Georgia.

I will begin my research by posting messages to the following SLMS social networking sites asking for participants: Georgia Media Listserv (GAMEDIA) found at members@georgiamedia.net and the Georgia Library Media Association (GLMA) blog found at http://glma.wordpress.com/

In my request, I will outline the criteria for participating in this study. There are no requirements for gender or race although diversity among the participants is preferred.

The group of respondents will be contacted via electronic mail for confirmation. Participants will be asked to sign two Informed Consent Forms (attached). One copy will be given to the participant and the other copy will be retained for the researcher's records. The researcher will give assurances to each participant that their names, the names of their districts and of their schools will remain confidential known only to the researcher and the researcher's committee chairperson. This information will not be released in any individually identifiable form without prior consent, unless otherwise required by law. The primary tool used in this

investigation will be a Delphi model and will be conducted through electronic mail. The first query will consist of one open-ended question, "From your position and experience as a school library media specialist (SLMS), how would you define 21st Century Literacy?" (see attached).

The data resulting from this study will be kept for up to two years in secure office storage for purposes of data analysis. The participants will be informed that all participation is voluntary and no compensation will be received for participation. No discomforts, stresses, or risks are foreseen in this study.

With any research study there are limitations. In this study the following limitations were identified:

- Participants may not be completely honest in their answers to the questions. The participants may verbally embellish scenarios as relayed to the researcher. The researcher must assume that questions and discussions with the participants are true.
- The timeframe for the study is short term. A longer period of research may produce a change in methods and/or a broader view of the future of this topic.
- Participation will be limited to the state of Georgia.

In spite of the limitations of the study, the data is valuable because it shows what SLMSs perceive the definition of 21st century literacy to be. Whereas, generalization is not claimed, the findings will have implications for other sites where knowledge of 21st century literacy is critical.

Methodology (Procedures).

The research will utilize a qualitative approach in order to evoke a rich source of information analyzing the attitude of SLMSs and their perception of 21st century literacy. This qualitative study will be conducted using s Delphi survey. The Delphi technique was chosen because it seeks to obtain consensus on the opinions of respondents through a series of structured queries. The first query will collect qualitative comments, which will be fed back to the participants through a second query. The process gathers opinion without the need to physically bring panelists together (Hasson, Keeney, & McKenna, 2000). By using successive questionnaires, opinions are considered in a non-adversarial manner, with the current status of the groups' collective opinion being repeatedly assessed. This informs the group members of the current status of their collective opinion and helps to identify items that participants may have missed or thought unimportant. This Delphi study will involve 10-30 participants using questionnaires, and discussion. The study will continue for approximately nine weeks and will consist of a minimum of at least two queries distributed at intervals based on data collection and analysis.

The use of the Delphi method will establish a foundation of perceptions among SLMSs with regard to their role in helping students develop 21st century literacies. This method will also launch a discussion of what SLMSs believe to be essential skills students must possess in order to be productive in this 21st century.

Because this study seeks to analyze the perspectives of SLMSs' attitude toward 21st century literacies, an important component of this study is that the participants are currently working in a school located in Georgia.

Triangulation and peer examination and clarifying the researcher's perspective and biases will be the primary means of establishing the validity of this study. The researcher will plan to have colleagues examine and comment on the findings as they emerge in the study. The researcher will identify and clarify her perspective and biases and include a description of these in her proposed study.

Research involving minors. No minors will be used in this research study.

Deception. No deception will be used in this research study.

Medical procedures. No medical procedures will be used in this research study.

Risk. No risks are foreseen in this study although there is potential for discomfort or stress when participants are asked to reflect on their teaching practices. The discomfort and stress is minimal since these SLMSs are immersed in professional literature and discussion among peers regarding the topic. The minimal risks associated with this study pose no greater harm than one would experience in daily life.

Cover page checklist.

APPENDIX C

IRB CONSENT AND ADMINISTRATIVE CONSENT FORMS

GEORGIA SOUTHERN UNIVERSITY

COLLEGE OF EDUCATION

DEPARTMENT OF CURRICULUM FOUNDATIONS AND READING

INFORMED CONSENT

I, _____, agree to take part in a research study titled "A Delphi Study Analyzing Perspectives of School Library Media Specialists' Attitudes toward 21st Century Literacies," which is being conducted by Rebecca Warren. Ms. Warren is conducting this study for Georgia Southern University and her results will be written up and submitted to the Curriculum, Foundations, and Reading Department (912-681-5091) as part of her required work for her Doctorate of Education degree. Ms. Warren's staff advisor is Dr. Judith Repman in the Leadership, Technology and Human Development Department at Georgia Southern University (912-478-5392).

I do not have to take part in this study. I can stop taking part at any time without giving any reason, and without penalty. I can ask to have information related to me returned to me, removed from the research records, or destroyed. The researcher has explained that the purpose of her research is to examine the perceptions of school library media specialists (SLMSs) toward 21st century literacies, including the identification of skills necessary to be 21st century literate, the SLMSs' teaching methods that cultivate 21st century literacies and the SLMSs' incorporation of these 21st century skills into the curriculum. The benefit I may expect from participating in this study is to gain a better understanding of my perceptions, attitudes, and knowledge of 21st century literacies and the skills required for student success.

The procedures are as follows:

1. I will be asked to define a term using detailed descriptions. The task should take no more than 15 minutes to complete.
2. I will be asked to create a list of skills and to prioritize that list according to importance. This task should take about 30 minutes to complete.

The results of this participation will be confidential, known only to the researcher, and will not be released in any individually identifiable form without my prior consent, unless otherwise required by law. The data resulting from this study will be kept for up to two years in secure office storage for purposes of data analysis. I understand participation is voluntary and no compensation will be received for participation. No risks are foreseen in this study although there is potential for minor discomfort or stress when participants are asked to reflect on their

practices and feelings. The potential for this discomfort and stress is minimal since these SLMSs are immersed in professional literature and discussion among peers on a regular basis with regard to the topic. The minimal risks associated with this study pose no greater harm than one would experience in daily life.

The researcher or her advisor will answer any further questions about the research, now or during the course of the project. The researcher, Rebecca Warren, can be reached by phone at (678) 362-5278; via mail at 175 Burkwood Court, Fayetteville, GA 30215; or via email at rwarren586@bellsouth.net ; warren.becky@mail.fcboe.org. The researcher's advisor, Dr. Judith Repman, can be reached by phone at (912) 478-5394; via mail at Georgia Southern University, Leadership, Technology, and Human Development Department, P. O. Box 8131, Statesboro, GA 30460-81311; or via email at jrepman@georgiasouthern.edu. If you have questions about your rights as a research participant, contact the Office of Research Services and Sponsored Programs at (912)486-7758, or oversight@georgiasouthern.edu.

My signature below indicates that the researcher has answered all of my questions to my satisfaction, I am eighteen years of age or older, and that I consent to volunteer for this study after reading all the above terms. I have been given a copy of this form for my records.

I, the undersigned, verify that the above informed consent procedure has been followed.

Signature of Participant	Date
Signature of Researcher	Date

PLEASE SIGN BOTH COPIES OF THIS FORM, KEEP ONE AND RETURN THE OTHER TO THE RESEARCHER.

APPENDIX D

INTRODUCTORY INFORMATION AND ROUND ONE SURVEY

Rebecca W. Warren 175 Burkwood Court, Fayetteville, Georgia 30215
rwarren586@bellsouth.net warren.becky@mail.fcboe.org

February 15, 2010

Dear Georgia School Library Media Specialist (SLMS),

You are invited to participate in a qualitative Delphi Study entitled *A Delphi Study Analyzing Perspectives of School Library Media Specialists ' Attitudes toward 21st Century Literacies* by Rebecca Warren. I am inviting selected members of the Georgia Library Media Association listserv and blog to participate as well as other currently employed school library media specialists in the state of Georgia. The Delphi research methodology is suitable to this study as I am inviting key leaders in our field who regularly use their professional judgment in curricular decisions to share their expert views on this particular dynamic topic.

I am currently employed as an elementary school library media specialist at Braelinn Elementary in Fayette County, Georgia. Although this is my first year as an elementary media specialist, I spent eight years as an SLMS at the middle school level. I have also been a classroom teacher in kindergarten; middle grades gifted reading, gifted language arts, science and social studies.

The Delphi approach engages experts in responding to a single query and subsequent contribution based on initial responses. Participation will occur through email, postal mail, or fax; my contact with you, the 'panel', is intentionally individual. Panelists are asked for independent thought. The researcher will gather, collate, and analyze the data for consensus and make one additional request for response based on the findings. Templates will be provided as 'fill-in forms'.

The first query will consist of one question with a request for your definition of 21st Century Literacy. The second query will consist of listing and prioritizing five skills you believe to be essential for an individual to be considered 21st century literate.

The first query is included in this packet. The second query will be emailed to panelists on or about March 8, 2010. For both queries you will have approximately two weeks to respond to my requests for contributions. The Delphi study will be completed by April 9, 2010.

The American Association for School Librarians (AASL) *Standards for the 21st Century Learner* (2007) state that the learner use skills, resources and tools to share knowledge and participate ethically and productively as members of our democratic society. It is the responsibility of the SMLS for leading the way in technological advancement, teaching, and implementing 21st century skills in the school setting. How do we teach 21st century skills if we have yet to identify our own attitudes and perceptions of such skills?

It is my hope that through your participation we will begin to understand those attitudes and perceptions that the leaders of our field identify as significant. Practicing SLMSs who routinely work with students to navigate new skills, literacies and technologies form a panel of experts who share both deep understanding and dedication to a shared vision of exemplary school library practice. This impressive group of individuals will include those who engage in service to our profession with a dedicated sense of what can be realistically undertaken.

If you choose to participate in this study, ***please respond to this request by February 26, 2010.*** A checklist of items to return in the SASE is listed on the First Round Query document. Please confirm your full contact information by filling in those areas on the same page as the checklist.

I thank you in advance for considering my request for your participation. I feel fortunate to be a part of such a knowledgeable group of professionals who regularly contribute and share best practices with others in the field.

Sincerely yours,

Rebecca W. Warren, Ed. S.
Doctoral Student
Georgia Southern University
Statesboro, GA 30460-81311

rwarren586@bellsouth.net

warren.becky@mail.fcboe.org

Cell: 678-362-5278

Home: 770-461-7314

School: 770-631-5410

Rebecca Warren
175 Burkwood Court
Fayetteville, GA 30215

School Fax: 770-631-5430

GSU IRB H10168

Rebecca W. Warren 175 Burkwood Court, Fayetteville, Georgia 30215
rwarren586@bellsouth.net warren.becky@mail.fcboe.org

February 15, 2010

First Round Query

Dear Delphi Study Panelist,

I am very appreciative of your willingness to participate in my Delphi study, "*A Delphi Study Analyzing Perspectives of School Library Media Specialists' Attitudes toward 21st Century Literacies.*"

> Literacies now include the digital, visual and technological, as well as the textual. Today's student has many tools available, including podcasting, RSS feeds, blogs, photo sharing, video sharing, social book marks, mapping, productivity tools, presentation tools, polling tools, quiz and list tools, calendar tools, event project management, web start pages, social networking which includes, texting, wikis, discussion boards, and emailing (Baumbach, 2009).

This query represents the focus of the study. I anticipate coming back to you next month with one additional query; it may be to prioritize the consensus of responses or other considerations. That reply will be very brief and will require only minutes of your time. Today, panelists are asked to respond to the following statement:

"From your position and experience as a school library media specialist, define what it means to be considered 21st Century Literate. In your definition, please include any skills you consider to be important."

Using the space provided on the next page, please reply on or before February 26, 2010, by using the enclosed SASE, fax, or email.

I feel fortunate to have you share your professional opinions and best practices for this study. Thank you for being generous with your time and expertise.

Sincerely yours,

Rebecca W. Warren, Ed. S.

Doctoral Student

"From your position and experience as a school library media specialist, define what it means to be considered 21st Century Literate. In your definition, please include any skills you consider to be important."

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Please continue your answer on the back of this sheet if necessary.

Participant's Name _____

Participant's School Name _____

Participant's School Address _____

_____

Participant's Email _____

Participant's Phone Number _____

Checklist for returning items:

____ Informed Consent (signed, 1 copy) ____ Contact Information ____ First Round Query Response

GSU IRB H10168

Baumbach, D. (2009). Web 2.0 and you. *Knowledge Quest*, 37(4), 12-19.

APPENDIX E

ROUND TWO SURVEY

Cover Letter for Round Two Survey

March 19, 2010

Dear School Library Media Specialist,

Recently you completed the first round of a research project entitled "A Delphi Study Analyzing Perspectives of School Library Media Specialists' Attitudes toward 21st Century Literacies." Your participation in that round was very much appreciated as your comments provided valuable insight into the perceptions and ideas of practicing media specialists.

At this time, I am asking that you complete the second (and final!) round of this research study. Estimated time to complete it is between 10 to 15 minutes. After Round Two is complete, I will send each participant the results of the study. Your anonymity and location is protected, and individual responses cannot be linked to individual media specialists. The preferred method of returning your response is via email to: rwarren586@bellsouth.net or warren.becky@mail.fcboe.org.You may also fax or use postal mail (information below). Please reply on or before **March 26, 2010.**

If you have questions at any time about the study or the procedures, you may contact the researcher, Rebecca (Becky) Warren, at 175 Burkwood Court, Fayetteville, GA 30215; cell: 678-362-5278; fax: 770-631-5430; rwarren586@bellsouth.net or warren.becky@mail.fcboe.org. If you have any questions about your rights as a participant, contact the Office of Research Services & Sponsored Programs, Institutional Review Board at Georgia Southern University, Statesboro, Georgia, 912-478-0719. The project number is **H10168**.

Again, thank you so much for your valuable time and attention.

Sincerely,

Rebecca W. Warren

Rebecca W. Warren
Ed. D. Candidate
Curriculum Studies
Georgia Southern University

Round Two Survey Instrument (Query) for:

A Delphi Study Analyzing Perspectives of School Library Media Specialists' Attitudes toward 21st Century Literacies

To the participant:

The following survey is divided into two sections. Listed below is the collective definition of 21st century literacy from our panelists' responses from Round One. The definition was derived from recurring phrases and words from each participant included in answering this statement, "…define what it means to be considered 21st century literate…"

> **"To be 21st century literate means using a variety of technologies to access information; being comfortable in using digital tools; using critical thinking skills; and, using information discrimination."**

Section One

Skills

With the aforementioned definition of 21st century literacy in mind, which of the following *skills* do you consider to be the most important in being 21st century literate? Please rate your top five answers (1-5, with 1 being most important).

_____ collaborate with others and share information

_____ analyze information

_____ find information

_____ evaluate information

_____ use a variety of technologies

_____ use information responsibly and ethically

Section Two

Tools and Perceptions

Blogs, printed text, video sharing, and wikis were listed by our panel as being important tools necessary to remain literate in the 21st century. With that in mind, please thoughtfully respond to the following statement:

> **"As a 21st century school library media specialist in the state of Georgia, I believe the media program is …"** (please return on or before March 26, 2010.)